Public Document No. 48

# The Commonwealth of Massachusetts

# ANNUAL REPORTS

OF THE

# METROPOLITAN DISTRICT COMMISSION

FOR THE YEARS 1940-'41-'42-'43-'44-'45-'46
and to June 30, 1947


PUBLICATION OF THIS DOCUMENT APPROVED BY STATE PURCHASING AGENT

11-'48 No. 24894

Boston Symphony Orchestra Concert at Hatch Memorial Shell

# REPORT OF THE METROPOLITAN DISTRICT COMMISSION

*To the Honorable the Senate and House of Representatives of the Commonwealth of Massachusetts in General Court Assembled.*

THE Metropolitan District Commission has already presented to your Honorable Body an abstract of the account of the receipts, expenditures, disbursements and liabilities of the Metropolitan District Commission for the fiscal year ending on November 30, 1940, and now, in accordance with the provisions of section 100 of chapter 92 of the General Laws, as amended by section 7 of chapter 499 of the acts of 1939 and section 32 of chapter 30 of the General Laws, as amended by section 4 of said chapter 499, presents a condensed statement of its doings for the calendar year ending on December 31, 1940.

## TWENTY-FIRST ANNUAL REPORT

## I. ORGANIZATION AND ADMINISTRATION

### Commission, Officers and Employees

Philip G. Bowker was appointed Associate Commissioner December 18, 1940 in place of Austin J. O'Connor. The Commission with this exception remains the same as in the previous year: Eugene C. Hultman, Commissioner, William F. Rogers, Melvin B. Breath and Joseph McKenney, Associate Commissioners.

William E. Whittaker, who has ably and conscientiously served the Commission as its secretary since April 18, 1929 and whose service with the commission in other capacities dated from September 9, 1896, retired on December 31, 1940 because of ill health. Nelson Curtis was appointed to succeed Mr. Whittaker as secretary on January 1, 1941. The departmental Directors were unchanged during the year: namely, Benjamin R. Davis, Director and Chief Engineer of Park Engineering; Samuel E. Killam, Director and Chief Engineer of the Water Division and Joseph P. Dever, Director and Chief Engineer of the Sewerage Division.

The total number of permanent positions as of November 30, 1940 and the number of temporary employees during the year is divided as follows:

| | *Administration* | *Parks Division* | *Sewerage Division* | *Water Division* | *Total* |
|---|---|---|---|---|---|
| Permanent | 48 | 668 | 261* | 376 | 1353 |
| Temporary | 36 | 1029 | 177** | 105 | 1347 |
| | 84 | 1697 | 438 | 481 | 2700 |

*Of this number 19 employees worked on Massachusetts State Project D-201, P.W.A. Docket 1419-F Sewerage Division.

Of this number 11 employees worked on Massachusetts State Project D-204, P.W.A. Docket 1574-F, Sewerage Division.

**Of this number 52 employees worked on Massachusetts State Project D-201, P.W.A. Docket 1419-F, Sewerage Division for part of the year and 17 employees worked on Massachusetts State Project D-204, P.W.A. Docket 1574-F, Sewerage Division for part of the year.

## II. GENERAL FINANCIAL STATEMENT

*Year ending November 30, 1940*

| | |
|---|---|
| Expended for construction | $ 2,278,411.92* |
| Expended for maintenance | 4,302,558.43** |
| Expended for miscellaneous | 24,825.46 |
| Total expenditures | 6,605,795.81 |
| Unexpended balance, maintenance appropriations | 317,967.93 |
| Serial bonds and notes issued | 204,000.00 |
| Sinking fund bonds paid | 3,973,500.00 |
| Serial bonds and notes paid | 716,937.50 |
| Decrease in sinking fund | 2,657,096.64 |
| Decrease in net debt | 1,829,340.86 |

*On November 30, 1940*

| | |
|---|---|
| NET DEBT | $12,011,531.55 |

*Of this amount $ 9,517.61 is for Massachusetts State Project D-206, P.W.A. Docket 1512-F, P.W.A. Fund, Share with State Appropriations, Underpass at Columbia Circle.

863.51 is for Massachusetts State Project D-207, P.W.A. Docket 1510-F, Highway Fund, Appropriations for P.W.A. Projects, Traffic Circle at West Roxbury Parkway and Centre Street.

54,019.33 is for Massachusetts State Project D-210, P.W.A. Docket 1555-F, P.W.A. Fund, Share with State Appropriations, Overpass and Traffic Circle, Cottage Farm Bridge.

1,005.10 is for Massachusetts State Project D-101, P.W.A. Docket No. Mass. 1098-R, P.W.A. Fund, Share with Special Bond Funds.

1,485,441.83 is for Massachusetts State Project D-201, P.W.A. Docket 1419-F, P.W.A. Fund, Share with Special Bond Funds.

177,649.31 is for Siphon, Chelsea Creek, Massachusetts State Project D-204, P.W.A. Docket 1574-F, P.W.A. Fund, Share with Special Bond Funds.

220,717.77 is for Siphon, Chelsea Creek, Massachusetts State Project D-204 (Supplementary), P.W.A. Fund, Share with Special Bond Funds.

22,797.76 is for Massachusetts State Project D-203, P.W.A. Docket 1516-F, Metropolitan District Water Fund, Water System Construction.

**Of this amount 2,501.41 is for Massachusetts State Project D-209, P.W.A. Docket 1585-F, Highway Fund, Maintenance of Boulevards and Parkways, Traffic Circle on Revere Beach Parkway.

## III. PARKS DIVISION

The Parks Engineering Department carried on a program of routine improvements and repairs to structures and facilities during the year. Such parkways as required repairs were resurfaced but the limited appropriation of money available only allowed a small amount of this work to be done.

The maintenance districts were operated during the year on a curtailed basis but all essential services were maintained to a good standard. The bathhouses served 128,383 patrons with receipts of $26,186.85. Total receipts from Riverside and Ponkapoag golf courses ran to $39,696.65. Eighty-eight band concerts were played in the various reservations and the twelfth series of Boston Symphony Concerts was presented in the new Hatch Memorial Shell on the Boston Embankment.

The Metropolitan Police Department averaged a total of 230 officers and patrolmen in 1940.

### *Special Investigations*

The Commission reported to the Legislature on its investigation relative to "establishing a public golf course in the City of Medford and the Town of Winchester, or either of them, and a recreational area for winter sports in said city" as required by Chapter 27 of the Resolves of 1939. The report is printed as House Document No. 119 of 1941.

## IV. METROPOLITAN WATER DISTRICT AND WORKS

The Metropolitan Water District includes 20 municipalities, with an area of about 174 square miles and a population, as of July 1, 1940, of 1,512,010. The area of Boston proper is approximately 44 square miles and the population, as of July 1, 1940, was 770,560.

The water supply for the Water District is obtained from the runoff of three watersheds, which is collected in storage reservoirs, Wachusett, Sudbury and Cochituate, each delivering through aqueducts directly or indirectly to the Distri-

bution System. The combined average yield per day of these watersheds exceeds 190,000,000 gallons and the capacity of the storage reservoirs on the watersheds, when at high water, is equivalent to 75,520,000,000 gallons. The combined capacity of all the reservoirs within the Metropolitan Distribution System area is approximately 2,500,000,000 gallons. In 1940 the Distribution System of the Metropolitan Works had approximately 182 miles of pipes, 96% of which were 16 inches to 60 inches in diameter and through which water was delivered to municipalities in the District supplied, equivalent to an average daily consumption of 139,167,600 gallons. Of this amount, 73,318,100 gallons were delivered by gravity, equivalent to 53% of the total consumption. Into the 997 miles of pipe, constituting the Boston local distribution system, a daily average of 94,830,500 gallons was delivered to Boston, equivalent to 68% of the water furnished the total Metropolitan Water District.

The works under the control of the Water Division include 9 storage reservoirs with 200 square miles of tributary watershed; a water surface of 8,600 acres; 60 miles of aqueducts; 2 hydro-electric power stations with a combined capacity of 7,000 horse power; 16 miles of high-tension power transmission line; 6 distribution pumping stations with a combined equipment of 7,900 horse power and pumping capacity of 346,000,000 gallons a day; 13 distribution reservoirs with a capacity of 2,500,000,000 gallons, and 182.32 miles of distribution mains.

In keeping with the National Defense Program, Water Works buildings heretofore opened to the public have been kept locked, and No Admittance signs have been placed on all such buildings.

## Storage Reservoirs

The capacities of the storage reservoirs of the Metropolitan Water Works, the elevation of the water surfaces and the quantity of water stored in each reservoir at the beginning and at the end of the year are shown by the following table:

| Storage Reservoirs | *Elevation*[1] * | *Total Capacity (Gallons)* | January 1, 1940 | | January 1, 1941 | |
|---|---|---|---|---|---|---|
| | | | *Elevation*[1] *of Water Surface* | *Available Storage (Gallons)* | *Elevation*[1] *of Water Surface* | *Available Storage (Gallons)* |
| Cochituate Watershed:— | | | | | | |
| Lake Cochituate | 144.36 | 2,097,100,000 | 143.31 | 1,751,850,000 | 143.32 | 1,754,000,000 |
| Sudbury Watershed:— | | | | | | |
| Sudbury Reservoir | 260.00 | 7,253,500,000 | 257.42 | 4,930,430,000 | 256.95 | 4,739,000,000 |
| Framingham Res. No. 1 | 169.32 | 289,900,000 | 167.64 | 123,580,000 | 168.00 | 139,000,000 |
| Framingham Res. No. 2 | 177.12 | 529,900.000 | 176.03 | 433,060,000 | 176.33 | 446,000,000 |
| Framingham Res. No. 3 | 186.50 | 1,180,000,000 | 184.54 | 842,300,000 | 184.82 | 865,000,000 |
| Ashland Reservoir | 225.21 | 1,416,400,000 | 224.46 | 959,100,000 | 224.63 | 968,000,000 |
| Hopkinton Reservoir | 305.00 | 1,520,900,000 | 302.39 | 908,500,000 | 304.28 | 1,025,000,000 |
| Whitehall Reservoir | 337.91 | 1,256,900,000 | 336.87 | 748,340,000 | 336.60 | 697,000,000 |
| Wachusett Watershed:— | | | | | | |
| Wachusett Reservoir | 396.50 | 67,000,000,000 | 375.74 | 30,877,120,000 | 381.79 | 37,324,000,000 |
| Totals | — | 82,544,600,000 | — | 41,574,280,000 | — | 47,957,000,000 |

[1] Elevation in feet above Boston City Base.
*Full reservoir with flashboards on overflow.

The total storage capacity shown in the third column of the table is to the bottom of the reservoirs. The available storage shown in columns 5 and 7 is the quantity that can be conveniently used for consumption. There was a gain in available storage of 6,382,720,000 gallons during the year.

## Hydro-Electric Service

Under contract with the New England Power Company and the Boston Edison Company for the sale of electric energy generated at the Wachusett and Sudbury dams, the Metropolitan District Water Supply Commission was furnished during the year with 1,112,715 kilowatt hours of electric energy for the construction of the Pressure Tunnel in Southborough and the remainder of the electric energy developed, not required for Water Works use, was sold to the companies.

The generation and sale of electric energy as a by-product in connection with the operation of the Metropolitan Water Works was provided for in Acts of 1895, Chapter 488.

The hydro-electric power stations at the Wachusett Dam in Clinton and at the Sudbury Dam in Southborough are operated by the water drawn for consumption in the Water District from the reservoirs above these dams. During the year, 9,305,070 kilowatt hours of electric energy were developed at the power stations.

The value of the energy delivered in 1940 at contract prices was $56,941.23. The expenditures charged to the operation of both stations and the Water Division transmission line during 1940, were $62,669.96, making a total loss for the year of $5,728.73.

This loss of revenue from generation of electricity is due, to a large degree, to the development of the New Works under the direction of the Metropolitan District Water Supply Commission. During the time that some of these operations were carried on, no energy was developed as it was necessary to operate the Wachusett Aqueduct during off hours, and at the Sudbury Dam it was necessary to by-pass a considerable amount of the water that was delivered for distribution in the Water District.

*Wachusett Dam Station* — The power station was operated on 286 working days during the year, being idle on Sundays and holidays and on 18 days during April, May, June and July on account of water requirements or due to construction of the new Pressure Aqueduct.

The statistics are as follows:

| | | | |
|---|---|---|---|
| Total energy developed (kilowatt hours) | 7,133,700 | | |
| Energy used at power station and storage yard (kilowatt hours) | 32,663 | | |
| Available energy (kilowatt hours) | | | 7,101,037 |
| Water used (gallons) | | | 37,591,900,000 |
| Average head (feet) | | | 89.39 |
| Energy developed per million foot gallons (kilowatt hours) | | | 2.123 |
| Efficiency of station (per cent) | | | 67.56 |
| Credits: | | | |
| Energy sold New England Power Company and Boston Edison Company: | | | |
| 5,779,698 kilowatt hours at $0.00625 | $36,123.11 | | |
| Deduction of 2% as provided in contract: | | | |
| 115,594 kilowatt hours at $0.00625 | 722.46 | $35,400.65 | |
| Energy sold Metropolitan District Water Supply Commission: | | | |
| 1,112,715 kilowatt hours at $0.00625 | | 6,954.47 | |
| Energy furnished Clinton Sewerage Pumping Station: | | | |
| 208,624 kilowatt hours at $0.00625 | | 1,303.90 | |
| | | | $43,659.02 |
| Charges: | | | |
| Superintendence | $ 2,468.97 | | |
| Labor, operating station | 9,971.19 | | |
| Repairs and Supplies | 2,200.06 | | |
| Transmission line repairs and supplies | 6,049.92 | | |
| | $20,690.14 | | |
| Taxes | 5,500.00 | | |
| Administration, general supervision, interest and sinking fund | 11,714.09 | | 37,904.23 |
| Profit | | | $ 5,754.79 |
| Cost of available energy per thousand kilowatt hours | | | $5.338 |

*Sudbury Dam Station* — The Sudbury Power Station was operated on 311 days, of which three shifts were run on 173 days, 2 shifts on 5 days and one shift on 133 days. No electric energy was generated on 55 days. The actual running time of the station was 172 days, 1 hour and 2 minutes.

The statistics are as follows:

| | | |
|---|---|---|
| Total energy developed (kilowatt hours) | 2,171,370 | |
| Energy used at power station (kilowatt hours) | 46,219 | |
| Available energy (kilowatt hours) | | 2,125,151 |
| Framingham Reservoir No. 3 service: | | |
| Water used (gallons) | | 6,195,100,000 |
| Average head (feet) | | 64.15 |
| Weston Aqueduct service: | | |
| Water used (gallons) | | 15,150,200,000 |
| Average head (feet) | | 37.88 |
| Energy developed per million foot gallons (kilowatt hours) | | 2.235 |
| Efficiency of station (per cent) | | 71.2 |
| Credits: | | |
| Energy sold Boston Edison Company: | | |
| 1,614,448 kilowatt hours at $0.00625 | $10,090.31 | |
| Energy sold Metropolitan District Water Supply Commission: | | |
| 510,703 kilowatt hours at $0.00625 | 3,191.90 | |
| | | $13,282.21 |
| Charges: | | |
| Superintendence | $ 2,178.91 | |
| Labor, operating station | 13,936.23 | |
| Repairs and supplies | 130.34 | |
| | $16,245.48 | |
| Taxes | 2,256.80 | |
| Administration, general supervision, interest and sinking fund | 6,263.45 | |
| | | 24,765.73 |
| Loss | | $11,483.52 |
| Cost of available energy per thousand kilowatt hours | | $11.654 |

## Distribution Reservoirs

The locations, elevations and capacities of the distribution reservoirs of the Metropolitan Water Works are shown by the following table:

| Distribution Reservoirs and Locations | *Elevation of High Water*[1] | *Capacity in Gallons* |
|---|---|---|
| Low Service: | | |
| Spot Pond, Stoneham and Medford | 163.00 | 1,791,700,000 |
| Chestnut Hill Reservoir, Brighton district of Boston | 134.00 | 300,000,000 |
| Weston Reservoir, Weston | 200.00 | 200,000,000 |
| Mystic Reservoir, Medford | 157.00 | 26,200,000 |
| Northern High Service: | | |
| Fells Reservoir, Stoneham | 271.00 | 41,400,000 |
| Bear Hill Reservoir, Stoneham | 300.00 | 2,450,000 |
| Northern Extra High Service: | | |
| Arlington Reservoir, steel tank, Arlington | 442.50 | 2,000,000 |
| Southern High Service: | | |
| Fisher Hill Reservoir, Brookline | 251.00 | 15,500,000 |
| Waban Hill Reservoir, Newton | 264.50 | 13,500,000 |
| Forbes Hill Reservoir, Quincy | 192.00 | 5,100,000 |
| Forbes Hill Standpipe, Quincy | 251.00 | 330,000 |
| Intermediate High Service: | | |
| Arlington Covered Reservoir | 320.00 | 2,000,000 |
| Southern Extra High Service: | | |
| Bellevue Reservoir, steel tank, West Roxbury district of Boston | 375.00 | 2,500,000 |
| Total | — | 2,402,680,000 |

[1]Elevation in feet above Boston City Base.

*The average daily consumption of water in each of the municipalities in the Metropolitan Water District during 1939 and 1940 is as follows:*

| | Estimated Population 1940 | Average Daily Consumption | | | | |
|---|---|---|---|---|---|---|
| | | 1939 | | 1940 | | Increase in Gallons |
| | | Gallons | Gallons per Capita | Gallons | Gallons per Capita | |
| Arlington | 40,110 | 2,250,400 | 57 | 2,166,900 | 54 | 83,500 [1] |
| Belmont | 27,000 | 1,632,100 | 62 | 1,523,500 | 56 | 108,600 [1] |
| Boston | 770,560 | 90,895,700 | 118 | 94,830,500 | 123 | 3,934,800 |
| Chelsea | 41,140 | 3,422,100 | 82 | 3,439,000 | 84 | 16,900 |
| Everett | 46,740 | 4,664,900 | 99 | 4,867,200 | 104 | 202,300 |
| Lexington | 13,280 | 851,000 | 66 | 659,900 | 50 | 191,100 [1] |
| Malden | 58,000 | 4,162,700 | 72 | 4,202,300 | 72 | 39,600 |
| Medford | 63,170 | 3,492,100 | 56 | 3,433,300 | 54 | 58,800 [1] |
| Melrose | 25,380 | 1,511,000 | 60 | 1,392,600 | 55 | 118,400 [1] |
| Milton | 18,760 | 1,059,600 | 57 | 976,300 | 52 | 83,300 [1] |
| Nahant | 1,840 | 177,800 | 98 | 199,100 | 108 | 21,300 |
| Quincy | 75,910 | 4,669,700 | 62 | 4,920,000 | 65 | 250,300 |
| Revere | 34,370 | 2,181,400 | 63 | 2,090,500 | 61 | 90,900 [1] |
| Somerville | 102,130 | 9,259,800 | 91 | 9,337,000 | 91 | 77,200 |
| Stoneham | 10,790 | 654,900 | 61 | 658,000 | 61 | 3,100 |
| Swampscott | 10,780 | 791,700 | 74 | 834,400 | 77 | 42,700 |
| Watertown | 35,440 | 2,344,400 | 66 | 2,354,200 | 66 | 9,800 |
| Winthrop | 16,770 | 1,366,600 | 81 | 1,282,900 | 76 | 83,700 [1] |
| District Supplied | 1,392,170 | 135,387,900 | 97 | 139,167,600 | 100 | 3,779,700 |
| Brookline | 49,850 | 4,934,200 | 99 | 4,864,000 | 98 | 70,200 [1] |
| Newton | 69,990 | 5,118,200 | 74 | 5,130,000 | 73 | 11,800 |
| Total District | 1,512,010 | 145,440,300 | 96 | 149,161,600 | 99 | 3,721,300 |

[1] Decrease.

*The consumption by districts in 1940 as compared with 1939 is as follows:*

| | Gallons per Day 1940 | Increase from 1939 | |
|---|---|---|---|
| | | Gallons per Day | Percentage |
| Low service district, embracing the low-service districts of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown | 73,318,100 | 4,160,200 | 6.02 |
| Southern high-service district, embracing Quincy, the high-service district of Boston, except East Boston, and portions of Milton and Watertown | 47,690,700 | 183,200 | 0.39 |
| Intermediate high-service district, embracing portions of Arlington, Belmont and Watertown | 1,306,900 | 4,100 [1] | 0.31 [1] |
| Northern high-service district, embracing Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and the high-service districts of Chelsea, East Boston, Everett, Malden, Medford and Somerville | 13,217,300 | 238,000 [1] | 1.77 [1] |
| Southern extra high-service district, embracing the higher portions of Hyde Park, Milton and West Roxbury | 1,821,600 | 26,300 | 1.46 |
| Northern extra high-service district, embracing Lexington and the higher portions of Arlington and Belmont | 1,813,000 | 347,900 [1] | 16.10 [1] |
| District Supplied | 139,167,600 | 3,779,700 | 2.79 |
| Brookline and Newton | 9,994,000 | 58,400 [1] | 0.58 [1] |
| Total District | 149,161,600 | 3,721,300 | 2.56 |

[1] Decrease.

*Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1940*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* | *Amount Charged* |
|---|---|---|---|
| Town of Rutland | 90,700,900*a* | 247,800 | — |
| Town of Holden | 26,285,300*b* | 71,800 | — |
| Town of Clinton | 211,049,617 | 886,700*c* | — |
| Town of Lancaster | 29,750,383 | 125,000*c* | $ 892.51 |
| Town of Sterling | 8,036,000*d* | 22,100 | — |
| Westborough State Hospital | 81,645,000 | 223,100 | 2,449.35 |
| Town of Westborough | 91,500,000 | 250,000 | — |
| Town of Southborough | 54,619,000 | 149,200 | — |
| Town of Ashland | 191,253,000 | 522,500 | — |
| Town of Hopkinton | 32,565,000 | 89,000 | — |
| Town of Framingham | 3,786,000 | 10,300 | — |
| Town of Natick | 331,135,000 | 904,700 | — |
| United States Army Reservation at Peddock's Island in Hull | 7,431,000*e* | 20,300 | 883.09 |
| Portion of Town of Saugus | 4,477,000*f* | 12,200 | — |
| Metropolitan Parks, Middlesex Fells and Revere Beach Divisions | 7,494,000 | 20,500 | — |
| Walter E. Fernald State School and Metropolitan State Hospital | 188,845,000*g* | 516,000 | 19,114.89 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 366 days.
*a*All water was diverted from the Wachusett watershed.
*b*807,800 gallons diverted from Wachusett watershed.
*c*The average daily use is figured on basis of 238 days' actual use.
*d*1,254,700 gallons diverted from Wachusett watershed.
*e*Water supplied by the Commission through City of Quincy pipes, and by agreement revenue is divided in equal shares between the City and Commonwealth.
*f*The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.
*g*For fiscal year ending November 30.

The population, consumption of water and per cent of services metered in the Metropolitan Water District as supplied in 1940 and for the period from 1890 to 1940, inclusive, are shown graphically by the accompanying diagram.

# V. METROPOLITAN SEWERAGE DISTRICTS

## Areas and Populations

The population of the districts, as given in the following table, are based on the census of 1940.

*Table showing Ultimate Contributing Areas and Present Estimated Populations within the Metropolitan Sewerage Districts, as of December 31, 1940.*

| | City or Town | Area (Square Miles) | | Estimated Population | |
|---|---|---|---|---|---|
| North Metropolitan District | Arlington | 4.73 | | 40,230 | |
| | Belmont | 3.93 | | 28,030 | |
| | Boston (portions of) | 3.45 | | 84,380 | |
| | Cambridge | 5.43 | | 110,930 | |
| | Chelsea | 2.07 | | 40,710 | |
| | Everett | 2.92 | | 46,660 | |
| | Lexington | 15.98 | | 13,410 | |
| | Malden | 4.16 | | 57,820 | |
| | Medford | 6.11 | | 63,380 | |
| | Melrose | 3.81 | | 25,420 | |
| | Reading | 9.76 | | 10,940 | |
| | Revere | 5.55 | | 34,280 | |
| | Somerville | 3.96 | | 102,180 | |
| | Stoneham | 4.27 | | 10,720 | |
| | Wakefield | 6.36 | | 16,170 | |
| | Winchester | 5.31 | | 15,140 | |
| | Winthrop | 1.61 | | 16,660 | |
| | Woburn | 12.23 | | 19,770 | |
| | | | 101.64 | | 736,830 |
| South Metropolitan District | Boston (portions of) | 24.96 | | 303,310 | |
| | Braintree | 13.44 | | 16,300 | |
| | Brookline | 5.35 | | 49,410 | |
| | Canton | 17.84 | | 6,350 | |
| | Dedham | 9.66 | | 15,440 | |
| | Milton | 9.59 | | 18,780 | |
| | Needham | 11.44 | | 12,600 | |
| | Newton | 16.00 | | 69,950 | |
| | Norwood | 10.16 | | 15,390 | |
| | Quincy | 11.46 | | 76,950 | |
| | Stoughton | 16.23 | | 8,630 | |
| | Walpole | 20.18 | | 7,520 | |
| | Waltham[1] | 11.40 | | 43,840 | |
| | Watertown | 3.83 | | 35,220 | |
| | Wellesley | 9.89 | | 15,320 | |
| | Weymouth | 16.46 | 208.52 | 23,960 | 718,970 |
| | Totals | | 310.16 | | 1,455,800 |

[1] Including 2930 in the Metropolitan State Hospital and the Middlesex County Tuberculosis Hospital authorized by Chapter 372 of the Acts of 1928 and Chapter 373 of the Acts of 1929.

# METROPOLITAN SEWERS

## Sewers Purchased and Constructed and Their Connections

During the year there have been 2.513 miles of Metropolitan sewers built within the sewerage districts, so that there are now 156.332 miles of Metropolitan sewers. Of this total, 9.642 miles of sewers, with the Quincy Pumping Station, having been purchased from cities and towns of the districts. The remaining 146.690 miles of sewers and other works have been constructed by the Metropolitan Boards.

The locations, lengths and sizes of these sewers are given in appendix tables, together with other data referring to the public and special connections with the systems.

# MAINTENANCE

## Scope of Work and Force Employed

The maintenance of the Metropolitan Sewerage System includes the operation of 10 pumping stations, the Nut Island screen-house and 156.332 miles of Metropolitan sewers, receiving the discharge from 2230.46 miles of town and city sewers at 1512 points, together with the care and study of inverted siphons under streams and in the harbor.

At present the permanent maintenance force consists of 196 men, of whom 117 are employed on the North System and 79 on the South System. These are subdivided as follows: North Metropolitan System, 77 engineers and other employees in the pumping stations and 40 men, including foremen, on maintenance, care of sewer lines, buildings and grounds; South Metropolitan System, 53 engineers and other employees in the pumping stations and 26 men, including foremen, on maintenance, care of sewer lines, buildings and grounds.

The regular work of this department, in addition to the operation of the pumping stations, has consisted of routine work of cleaning and inspecting sewers and siphons, caring for tide gates, outfall sewers, regulators and overflows, measuring flow in sewers, inspection of connections to the Metropolitan sewers, and the care of pumping stations and other buildings, grounds and wharves.

In addition to these regular duties, other work has been done by the maintenance employees in this department as follows:

## Gasoline in Public Sewers

During the year the usual precautions have been maintained against the introduction of gasoline into the Metropolitan sewers. An inspector who covers both North and South Metropolitan Sewerage Districts has been employed. His duties are to see that all newly constructed garages or other gasoline-using establishments are supplied with a proper gasoline separator and also to see that these separators are kept in working condition.

During the year 1940 the number of permits issued by the municipalities in the Sewerage Districts for the construction of garages and other places where gasoline is used was 496. Each of these permits necessitates an examination by our inspector. Many of them are attended to through the mails and do not require a personal visit. Visits are made, however, to all locations where a connection is to be made with the public sewerage system and to such places as do not respond to the return postal cards sent out. During the year 101 such places were connected with the sewers that empty into the Metropolitan Systems. At the present time there are according to our records 1,942 garages and other establishments where gasoline is used connected with the local sewerage systems which discharge into the Metropolitan sewers.

This system of inspection has improved the gasoline situation in regard to the danger to the sewers. Occasionally odors of gasoline are detected in the sewers. These are reported to the Department of Public Safety which alone has statutory control of the distribution and handling of gasoline in the Commonwealth.

# PUMPING STATIONS

## *Capacities and Results*

### North Metropolitan System

*Deer Island Pumping Station* — At this station are four submerged centrifugal pumps with impeller wheels 8.25 feet in diameter, driven by triple-expansion engines of the Reynolds-Corliss type.

Contract capacity of 1 pump: 100,000,000 gallons, with 19-foot lift.
Contract capacity of 3 pumps: 45,000,000 gallons each, with 19-foot lift.
Average coal duty for the year: 52,150,000 foot pounds.
Average quantity raised each day: 86,800,000 gallons.
Maximum quantity raised per day: 152,000,000 gallons.

*East Boston Pumping Station* — At this station are four submerged centrifugal pumps with impeller wheels 8.25 feet in diameter, driven by triple-expansion engines of the Reynolds-Corliss type.
Contract capacity of 1 pump: 100,000,000 gallons, with 19-foot lift.
Contract capacity of 3 pumps: 45,000,000 gallons each, with 19-foot lift.
Average coal duty for the year: 54,400,000 foot pounds.
Average quantity raised each day: 84,800,000 gallons.
Maximum quantity raised per day: 150,000,000 gallons.

*Charlestown Pumping Station* — At this station are three submerged centrifugal pumps, two of them having impeller wheels 7.5 feet in diameter, the other 8.25 feet in diameter. They are driven by triple-expansion engines of the Reynolds-Corliss type.
Contract capacity of 1 pump: 60,000,000 gallons, with 8-foot lift.
Contract capacity of 2 pumps: 22,000,000 gallons each, with 11-foot lift.
Average coal duty for the year: 67,400,000 foot pounds.
Average quantity raised each day: 55,500,000 gallons.
Maximum quantity raised per day: 94,000,000 gallons.

*Alewife Brook Pumping Station* — The pumping units in this station consist of one Andrews pump driven by a compound marine engine, one Morris pump and Morris compound engine and a specially designed engine of vertical cross-compound type having between the cylinders a centrifugal pump rotating on a horizontal axis.
Contract capacity of the Andrews pump: 4,500,000 gallons, with 13-foot lift.
Contract capacity of Morris pump: 8,000,000 gallons, with 15-foot lift.
Contract capacity of the special pump: 13,000,000 gallons, with 13-foot lift.
Average coal duty for the year: 35,400,000 foot pounds.
Average quantity raised each day: 9,924,000 gallons.
Maximum quantity raised per day: 16,040,000 gallons.

*Reading Pumping Station* — At this station are two submerged centrifugal pumps, one of 2,500,000 gallons per 24 hours, and one of 4,000,000 gallons per 24 hours, capacity. These operate against a maximum head of 65 feet, and are actuated by vertical shafts directly connected with 75 and 100 horse-power motors.
Alternating current of 440 volts furnished by the town of Reading is used.
Average quantity pumped per 24 hours: 1,070,000 gallons.
Maximum quantity raised per day: 2,725,000 gallons.

### South Metropolitan System

*Ward Street Pumping Station* — At this station are two vertical, triple-expansion pumping engines, of the Allis-Chalmers type, operating reciprocating pumps, the plungers of which are 48 inches in diameter with a 60-inch stroke and one 50,000,000-gallon centrifugal pumping unit actuated by a 500 H.P. Uniflow engine.
Contract capacity of 3 pumps: 50,000,000 gallons each, with 45-foot lift.
Average coal duty for the year: 79,500,000 foot pounds.
Average quantity raised each day: 35,970,000 gallons.
Maximum quantity raised per day: 61,500,000 gallons.

*Quincy Pumping Station* — The plant at this station consists of one Lawrence centrifugal pump driven by a Sturtevant compound condensing engine, one Morris centrifugal pump driven by a Morris compound condensing engine, and one DeLaval centrifugal pump driven by a Fitchburg vertical uniflow engine.
Contract capacity of 3 pumps: Lawrence centrifugal, 10,000,000 gallons; Morris centrifugal, 10,000,000 gallons; DeLaval centrifugal, 15,000,000 gallons.
Average coal duty for the year: 35,660,000 foot pounds.
Average quantity raised each day: 8,492,000 gallons.
Maximum quantity raised per day: 23,000,000 gallons.

*Nut Island Screen-house* — The plant at this house includes two sets of screens in duplicate actuated by small reversing engines of the Fitchburg type. Two vertical tubular boilers, 80 horsepower each, operate the engines, provide heat and light for the house, burn materials intercepted at the screens, and furnish power for the Hough's Neck pumping station.

Average daily quantity of sewage passing screens: 94,000,000 gallons.
Maximum quantity passing screens per day: 200,000,000 gallons.

*Hough's Neck Pumping Station* — At this station are two 6-inch submerged Lawrence centrifugal pumps with vertical shafts actuated by two Sturtevant direct-current motors.

The labor and electric energy for this station are supplied from the Nut Island Screen-house, and as used at present it does not materially increase the amount of coal used at the latter station.

Average quantity raised each day: 246,370 gallons.
Maximum quantity raised per day: 315,000 gallons.

*Squantum Pumping Station* — At this station are two pumping units each consisting of a 10-inch submerged DeLaval centrifugal pump with vertical shaft actuated by a Crocker-Wheeler 60 H.P. motor. Each unit is capable of lifting 4,000,000 gallons of sewage per 24 hours against a head of 46 feet.

The electric energy for this station is purchased from the Quincy Electric Light & Power Company.

Average quantity raised each day: 191,100 gallons.

*Braintree-Weymouth Pumping Station* — At this station are two pumping units consisting of DeLaval centrifugal pumps actuated by 150 H.P. direct connected Winton diesel engines, together with all accessories appertaining thereto. Each unit is capable of lifting 15,000,000 gallons of sewage per 24 hours against a head of 30 feet.

Average quantity raised per day: 1,748,000 gallons.

*Average Daily Volume of Sewage lifted at Each of the Ten Metropolitan Sewerage Pumping Stations during the Year, as compared with the Corresponding Volumes for the Previous Year*

| Pumping Station | Average Daily Pumpage | | | |
|---|---|---|---|---|
| | *Jan. 1, 1940 to Dec. 31, 1940* | *Jan. 1, 1939 to Dec. 31, 1939* | *Increase during the Year* | |
| | Gallons | Gallons | Gallons | Per Cent. |
| Deer Island | 86,800,000 | 84,700,000 | 2,100,000 | 2.48 |
| East Boston | 84,800,000 | 82,700,000 | 2,100,000 | 2.54 |
| Charlestown | 55,500,000 | 60,300,000 | 4,800,000* | 7.96* |
| Alewife Brook | 9,924,000 | 9,580,000 | 344,000 | 3.59 |
| Reading | 1,070,000 | 961,000 | 109,000 | 11.34 |
| Quincy | 8,492,000 | 8,034,000 | 458,000 | 5.70 |
| Ward Street (actual gallons pumped) | 35,970,000 | 33,200,000 | 2,770,000 | 8.36 |
| Hough's Neck | 246,370 | 287,346 | 40,976* | 14.26* |
| Squantum | 191,100 | 181,528 | 9,572 | 5.27 |
| Braintree-Weymouth | 1,748,000 | 1,370,000 | 378,000 | 27.59 |

*Decrease.

## Metropolitan Sewerage Outfalls

The Metropolitan Sewerage Districts now have outfalls in Boston Harbor at five points, two of which may discharge sewage from the North District and three from the South District.

During the year the sewage of the North District has been discharged wholly through the outlet located near Deer Island light. The other outfall of this system is closed by a cast-iron cover which can easily be removed.

Of the outfalls of the South District, two extend for a distance exceeding one mile from the shore of Nut Island, Quincy, and the third one, called an emergency outlet, extends about 1,500 feet from the same. It was necessary to discharge sewage through this outfall 149 hours during the year.

During the year the average flow through the North Metropolitan District outfall at Deer Island has been 86,800,000 gallons of sewage per 24 hours, with a maximum rate of 152,000,000 gallons during the stormy period in April, 1940. The amount of sewage discharged from the North Metropolitan District averaged 127.9 gallons per day for each person, taking an estimated population of the District

contributing sewage. If the sewers in this District were restricted to the admission of sewage proper only, this per capita amount would be considerably decreased.

In the South Metropolitan District an average of 94,200,000 gallons of sewage per 24 hours has passed through the screens and has been discharged from the outfalls into the harbor. The maximum rate of discharge per day which occurred during a stormy period in November, 1940, was 200,600,000 gallons. The discharge of sewage through these outfalls represents the amount of sewage contributed by the South Metropolitan District, which was at the rate of 174.5 gallons per day per person of the estimated number contributing sewage in the District.

### Material Intercepted at the Screens

The material removed from the sewage at the screens of the North Metropolitan Sewerage Stations, consisting of rags, paper and other floating materials, has during the year amounted to 1,677 cubic yards. This is equivalent to 1.44 cubic feet for each million gallons of sewage pumped at Deer Island.

The material removed from the sewage at the screens of the South Metropolitan Sewerage Stations amounted to 3,742 cubic yards, equal to 2.95 cubic feet per million gallons of sewage delivered at the outfall works at Nut Island.

Studies of sewage flows in the Metropolitan sewers and siphons indicate that they are free from deposit.

## VI. OTHER REPORTS

Tables, statistics and financial statements relating to the several divisions are hereto appended.

Respectfully submitted,

Eugene C. Hultman,
*Metropolitan District Commissioner.*

February 28, 1941.

# APPENDIX No. 1

## FINANCIAL STATEMENT

OF THE

## METROPOLITAN DISTRICT COMMISSION

FOR THE YEAR ENDING NOVEMBER 30, 1940

| | *Condition of Fund as of Dec. 1, 1939* | *Amount Available 1940* | *Expended 1940* | *Balance Dec. 1, 1940* |
|---|---|---|---|---|
| Bunker Hill Monument Maintenance | | | | |
| Account No. 2801: | | | | |
| Chapter 309, Acts of 1939 (1940 appropriation) . | | $11,935.00 | | |
| Balance brought forward from 1939 appropriation to cover 1939 expenditures on 1940 books . . | | 493.92 | | |
| | | $12,428.92 | $11,892.82 | $536.10 |
| P.W.A. Fund, Share With State Appropriations | | | | |
| Traffic Circle at West Roxbury Parkway and Centre Street | | | | |
| Mass. State Project D-207, P.W.A. Docket No. 1510-F | | | | |
| Account No. 2925-02: | | | | |
| Chapter 497, Acts of 1938 . . | $59,950.00 | | | |
| Federal grants . . . . | 38,150.00 | | | |
| | $ 98,100.00 | | | |
| Expended to Nov. 30, 1939 . . | 89,361.51 | | | |
| | $8,738.49 | | | |
| Transferred to Traffic Circle, West Roxbury Parkway and Centre Street (Account No. 2925-05) . . . | 1,500.00 | | | |
| | | $7,238.49 | $863.51 | $6,374.98 |
| Highway Fund, Appropriation for P.W.A. Projects | | | | |
| Underpass at Columbia Circle | | | | |
| Account No. 2925-03: | | | | |
| Chapter 497, Acts of 1938 . . | $65,000.00 | | | |
| Transferred to Underpass at Columbia Circle, Mass. State Project D-206, P.W.A. Docket No. 1512-F . . | 64,900.00 | | | |
| | $100.00 | | | |
| Expended to Nov. 30, 1939 . . | — | $100.00 | — | $100.00 |
| P.W.A. Fund, Share With State Appropriations | | | | |
| Underpass at Columbia Circle | | | | |
| Mass. State Project D-206, P.W.A. Docket No. 1512-F | | | | |
| Account No. 2925-03: | | | | |
| Chapter 497, Acts of 1938 . . | $64,900.00 | | | |
| Federal grants . . . . | 33,909.33 | | | |
| | $98,809.33 | | | |
| Expended to Nov. 30, 1939 . . | 88,628.62 | | | |
| | | $10,180.71 | | |
| Federal grants . . . . | | 15,957.22 | | |
| | | $26,137.93 | $9,517.61 | $16,620.32 |
| Overpass and Traffic Circle, Cottage Farm Bridge | | | | |
| Mass. State Project D-210, P.W.A. Docket No. 1555-F | | | | |
| Account No. 2925-04: | | | | |
| Chapter 494, Acts of 1938 . . | $250,000.00 | | | |
| Federal grants . . . . | 148,283.94 | | | |
| | $398,283.94 | | | |
| Expended to Nov. 30, 1939 . . | 394,460.85 | | | |
| | | $3,823.09 | | |
| Federal grants . . . . | | 52,072.38 | | |
| | | $55,895.47 | $54,019.33 | $1,876.14 |

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Highway Fund, Appropriations for P.W.A. Projects (continued) | | | | |
| Traffic Circle at West Roxbury Parkway and Centre Street | | | | |
| Account No. 2925-05: | | | | |
| Chapter 497, Acts of 1938 | $60,000.00 | | | |
| Transferred to Traffic Circle at West Roxbury Parkway and Centre Street, Mass. State Project D-207, P.W.A. Docket No. 1510-F (Account No. 2924-02) | 59,950.00 | | | |
| | $50.00 | | | |
| Transferred from Traffic Circle at West Roxbury Parkway and Centre Street, Mass. State Project D-207, P.W.A. Docket No. 1510-F (Account No. 2924-02) | 1,500.00 | | | |
| | $1,550.00 | | | |
| Expended to Nov. 30, 1939 | 597.00 | | | |
| | | $953.00 | — | $953.00 |
| Highway Fund, Maintenance of Boulevards and Parkways | | | | |
| Specials | | | | |
| Boulevard, Fellsway to Mystic Avenue, Medford | | | | |
| Account No. 2930-01: | | | | |
| Chapter 460, Acts of 1931 | $189,473.68 | | | |
| Chapter 170, Acts of 1932 | 210,526.32 | | | |
| Chapter 384, Acts of 1934 | 100,000.00 | | | |
| Chapter 497, Acts of 1935 | 20,000.00 | | | |
| | $520,000.00 | | | |
| Expended to Nov. 30, 1939 | 518,600.75 | | | |
| | | $1,399.25 | — | $1,399.25 |
| Highway Fund, Maintenance of Boulevards and Parkways | | | | |
| Account No. 2931: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $693,700.00 | | |
| Chapter 495, Acts of 1939 (1940 appro.) | | 1,365.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 35,185.15 | | |
| | | $ 730,250.15 | | |
| Reduced by Chapter 387, Acts of 1939 | | —1,619.11 | | |
| | | $728,631.04 | $699,140.63 | $29,490.41 |
| Refund of Dept. of Public Works credited to Metropolitan District Commission fund by Comptroller | | | —23.35 | +23.35 |
| | | | $699,117.28 | $ 29,513.76 |
| Highway Fund, Maintenance of Boulevards and Parkways | | | | |
| Specials | | | | |
| Resurfacing Boulevards and Parkways | | | | |
| Account No. 2932-01: | | | | |
| Unexpended balance of | | | | |
| Chapter 309, Acts of 1939 | | $179,043.14 | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | 125,000.00 | | |
| | | $304,043.14 | | |
| Transferred from Resurfacing Boulevards and Parkways, Traffic Circle on Revere Beach Parkway, Mass. State Project D-209, P.W.A. Docket No. 1585-F (Account No. 2932-10) | | 3,500.00 | | |
| | | $307,543.14 | 289,808.07 | $17,735 07 |
| Resurfacing of Boulevards and Parkways | | | | |
| Mass. State Project D-209 | | | | |
| P.W.A. Docket No. 1585-F | | | | |
| Account No. 2932-10: | | | | |
| Chapter 356, Acts of 1938 | $22,000.00 | | | |
| Chapter 309, Acts of 1939 | 9,900.00 | | | |
| Federal grants | 10,802.51 | | | |
| | $42,702.51 | | | |
| Expended to Nov. 30, 1939 | 42,684.70 | | | |
| | | $17.81 | | |
| Federal grants | | 7,197.49 | | |
| | | $7,215.30 | | |
| Transferred to Resurfacing Boulevards and Parkways (Account No. 2932-01) | | —3,500.00 | | |
| | | $3,715.30 | $2,501.41 | $1,213.89 |

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Highway Fund, Maintenance of Boulevards and Parkways | | | | |
| Specials (continued) | | | | |
| Expenses for Procuring W.P.A. Funds | | | | |
| Account No. 2933: | | | | |
| Chapter 304, Acts of 1936 | $13,000.00 | | | |
| Chapter 234, Acts of 1937 | 8,000.00 | | | |
| Chapter 434, Acts of 1937 | 16,000.00 | | | |
| Chapter 356, Acts of 1938 | 24,000.00 | | | |
| Chapter 309, Acts of 1939 | 20,000.00 | | | |
| | $81,000.00 | | | |
| Expended to Nov. 30, 1939 | 50,697.76 | | | |
| | | $30,302.24 | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | 10,000.00 | | |
| | | $40,302.24 | $19,624.99 | $20,677.25 |
| Additional Street Lighting | | | | |
| Account No. 2934: | | | | |
| Chapter 356, Acts of 1938 | $20,000.00 | | | |
| Expended to Nov. 30, 1939 | 19,902.56 | | | |
| | | $97.44 | $73.71 | $23.73* |
| Grading and Landscaping | | | | |
| Account No. 2936: | | | | |
| Chapter 304, Acts of 1936 | $25,000.00 | | | |
| Expended to Nov. 30, 1939 | 24,560.66 | | | |
| | | $439.34 | — | $439.34 |
| Repairs, Sea Wall, Winthrop | | | | |
| Account No. 2937-01: | | | | |
| Chapter 495, Acts of 1939 | $17,000.00 | | | |
| Expended to Nov. 30, 1939 | 12,192.11 | | | |
| | | $4,807.89 | $4,794.22 | $13.67 |
| Drainage System, Medford | | | | |
| Account No. 2937-02: | | | | |
| Chapter 356, Acts of 1938 | $4,000.00 | | | |
| Expended to Nov. 30, 1939 | 3,948.27 | | | |
| | | $51.73 | — | $51.73* |
| Repairs, Neponset River Bridge | | | | |
| Account No. 2937-03 | | | | |
| Chapter 356, Acts of 1938 | $125,000.00 | | | |
| Expended to Nov. 30, 1939 | 113,623.55 | | | |
| | | $11,376.45 | $6,101.91 | $5,274.54* |
| Drains, Veterans of Foreign Wars Parkway | | | | |
| Account No. 2937-04: | | | | |
| Chapter 309, Acts of 1939 | $4,000.00 | | | |
| Expended to Nov. 30, 1939 | 10.00 | | | |
| | | $3,990.00 | $3,985.23 | $4.77 |
| | *Reverted. | | | |
| Highway Fund, Special Public Works Improvements | | | | |
| Reconstruction Oak Island Bridge and Road, Revere | | | | |
| Account No. 2937-05: | | | | |
| Chapter 497, Acts of 1938 | $67,400.00** | | | |
| Expended to Nov. 30, 1939 | — | | | |
| | | $67,400.00 | — | $67,400.00* |
| Highway Fund, Maintenance of Boulevards and Parkways | | | | |
| Special | | | | |
| Storm Damage | | | | |
| Account No. 2937-08: | | | | |
| Chapter 518, Acts of 1939 | | $16,500.00 | — | $16,500.00# |
| Metropolitan Parks District | | | | |
| Hurricane and Flood Damage | | | | |
| Account No. 8286: | | | | |
| Chapter 507, Acts of 1938 | $650,000.00 | | | |
| Expended to Nov. 30, 1939 | 569,267.21 | | | |
| | | $80,732.79 | $22,988.91 | $57,743.88 |
| Metropolitan Water District | | | | |
| Hurricane and Flood Damage | | | | |
| Account No. 8289: | | | | |
| Chapter 507, Acts of 1938 | $100,000.00 | | | |
| Expended to Nov. 30, 1939 | 95,461.75 | | | |
| | | $4,538.25 | $1,836.55 | $2,701.70 |
| Emergency Public Works Commission Construction | | | | |
| Mass. State Project D-1 | | | | |
| P.W.A. Docket No. 4478 | | | | |
| Metropolitan District Commission | | | | |
| Wellington Bridge | | | | |
| Account No. 8303-04: | | | | |
| Authorization | $930,251.44 | | | |
| Expended to Nov. 30, 1939 | 926,003.06 | | | |
| | | $4,248.38 | — | $4,248.38 |

*Reverted.
**$50,000.00 transferred from Department of Public Works.
#Rescinded by vote of Governor and Council, September 11, 1940.

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Metropolitan Parks Construction | | | | |
| Specials | | | | |
| Bath House, Watertown | | | | |
| Account No. 8601-01: | | | | |
| Chapter 331, Acts of 1936 | $32,500.00 | | | |
| Chapter 432, Acts of 1936 | 32,500.00 | | | |
| | $65,000.00 | | | |
| Expended to Nov. 30, 1939 | 64,367.71 | | | |
| | | $632.29 | — | $632.29 |
| Construction and Incidentals | $41,870.00 | | | |
| Expended to Nov. 30, 1939 | 41,240.18 | | | |
| | | $629.82 | — | $629.82 |
| Beach | $23,130.00 | | | |
| Expended to Nov. 30, 1939 | 23,127.53 | | | |
| | | $2.47 | — | $2.47 |
| Public Sanitary, Winthrop | | | | |
| Account No. 8601-03: | | | | |
| Chapter 497, Acts of 1938 | $20,000.00 | | | |
| Expended to Nov. 30, 1939 | 13,831.81 | | | |
| | | $6,168.19 | $4,706.85 | $1,461.34* |
| Metropolitan Parks Maintenance, | | | | |
| General Parks Maintenance | | | | |
| Account No. 8602: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $1,161,550.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 15,781.69 | | |
| | | $1,177,331.69 | | |
| Reduced by Chapter 387, Acts of 1939 | | 1,420.24 | | |
| | | $1,175,911.45 | $1,126,963.99 | $48,947.46 |
| Metropolitan Parks Maintenance, | | | | |
| General Parks Maintenance | | | | |
| Specials | | | | |
| Band Concerts | | | | |
| Account No. 8602-21: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $15,000.00 | $14,936.20 | $63.80* |
| Metropolitan Parks Maintenance, | | | | |
| General Parks Maintenance | | | | |
| Expenses for Procuring W.P.A. Funds | | | | |
| Account No. 8602-22: | | | | |
| Chapter 304, Acts of 1936 | $20,000.00 | | | |
| Chapter 234, Acts of 1937 | 12,000.00 | | | |
| Chapter 434, Acts of 1937 | 14,000.00 | | | |
| Chapter 356, Acts of 1938 | 10,000.00 | | | |
| Chapter 497, Acts of 1938 | 16,000.00 | | | |
| Chapter 309, Acts of 1939 | 20,000.00 | | | |
| | $92,000.00 | | | |
| Expended to Nov. 30, 1939 | 70,703.34 | | | |
| | | $21,296.66 | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | 15,000.00 | | |
| | | $36,296.66 | $12,937.21 | $23,359.45 |
| Renovating Magazine Beach Bath House | | | | |
| Account No. 8602-23: | | | | |
| Chapter 434, Acts of 1937 | $15,000.00 | | | |
| Chapter 497, Acts of 1938 | 3,700.00 | | | |
| | $18,700.00 | | | |
| Expended to Nov. 30, 1939 | 18,654.00 | | | |
| | | $46.00 | — | $46.00* |
| Esplanade Concerts | | | | |
| Account No. 8602-26: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $3,750.00 | $3,750.00 | — |
| Gypsy Moth Suppression | | | | |
| Account No. 8602-27: | | | | |
| Chapter 356, Acts of 1938 | $25.000.00 | | | |
| Chapter 309, Acts of 1939 | 5,000.00 | | | |
| | $30,000.00 | | | |
| Expended to Nov. 30, 1939 | 29,438.13 | | | |
| | | $561.87 | — | $561.87* |
| Gypsy Moth Suppression | | | | |
| Account No. 8602-27: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $5,000.00 | $4,999.02 | $0.98 |

*Reverted.

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Metropolitan Parks Maintenance, General Parks Maintenance | | | | |
| Specials (continued) | | | | |
| Dredging Mystic Lake | | | | |
| Account No. 8602-29: | | | | |
| Chapter 497, Acts of 1938 | $100,000.00 | | | |
| Expended to Nov. 30, 1939 | 62,882.65 | | | |
| | | $37,117.45 | $35,584.00 | $1,533.45* |
| Charles River Basin Improvement Fund | | | | |
| Construction | | | | |
| Account No. 8606-01: | | | | |
| Chapter 371, Acts of 1929 | $2,305,000.00 | | | |
| Less Chapter 179, Acts of 1931 | —25,000.00 | | | |
| | $2,280,000.00 | | | |
| Interest | 129,110.90 | | | |
| | $2,409,110.90 | | | |
| Expended to Nov. 30, 1939 | 2,145,313.86 | | | |
| | $263,797.04 | | | |
| Transferred to Other Expenses (Account No. 8606-02) | 100,000.00 | | | |
| | | $163,797.04 | | |
| Transferred to Boat House and Sailing Pavilion (Account No. 8606-03) | | —80,000.00 | | |
| | | $83,797.04 | | |
| Transferred to Bath House, Gerry's Landing (Account No. 8606-04) | | —30,000.00 | | |
| | | $53,797.04 | $48,297.71 | $5,499.33 |
| Other Expenses | | | | |
| Account No. 8606-02: | | | | |
| Chapter 356, Acts of 1938 | $100,000.00 | | | |
| Expended to Nov. 30, 1939 | 90.548.49 | | | |
| | | $9,451.51 | $6,477.90 | $2,973.61 |
| Boat House and Sailing Pavilion | | | | |
| Account No. 8606-03: | | | | |
| Approval of Governor and Council | | $80,000.00 | $41,510.50 | $38,489.50 |
| Bath House, Gerry's Landing | | | | |
| Account No. 8606-04: | | | | |
| Approval of Governor and Council | | $30,000.00 | $6.75 | $29,993.25 |
| Charles River Basin Maintenance Fund | | | | |
| Account No. 8607: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $228,130.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 8,914.80 | | |
| | | $237,044.80 | | |
| Reduced by Chapter 387, Acts of 1939 | | —46.47 | | |
| | | $236,998.33 | $228,943.53 | $8,054.80 |
| Charles River Basin Maintenance Fund | | | | |
| Special | | | | |
| Dredging Broad and Lechmere Canals | | | | |
| Account No. 8607-21: | | | | |
| Chapter 309, Acts of 1939 | $10,000.00 | | | |
| Expended to Nov. 30, 1939 | 40.00 | | | |
| | | $9,960.00 | $7,750.00 | $2,210.00 |
| Nantasket Beach Maintenance, General Maintenance | | | | |
| Account No. 8611: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $93,075.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 862.75 | | |
| | | $93,937.75 | | |
| Reduced by Chapter 387, Acts of 1939 | | —622.56 | | |
| | | $93,315.19 | $90,061.62 | $3,253.57 |
| Wellington Bridge Maintenance, General Maintenance | | | | |
| Account No. 8612: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $12,340.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 179.26 | | |
| | | $12,519.26 | $12,131.25 | $388.01 |

*Reverted.

| | *Condition of Fund as of Dec. 1, 1939* | *Amount Available 1940* | *Expended 1940* | *Balance Dec. 1, 1940* |
|---|---|---|---|---|
| Metropolitan District Sewerage Fund, North System Maintenance Account No. 8802: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $418,700.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 6,682.77 | | |
| | | $425,382.77 | | |
| Reduced by Chapter 387, Acts of 1939 | | —1,567.07 | | |
| | | $423,815.70 | $405,545.38 | $18,270.32 |
| Metropolitan District Sewerage Fund, North System Maintenance Special Boilers, East Boston Pumping Station Account No. 8802-21 | | | | |
| Chapter 356, Acts of 1938 | $40,000.00 | | | |
| Expended to Nov. 30, 1939 | 12,915.76 | | | |
| | | $27,084.24 | $2,498.72 | $24,585.52 |
| Metropolitan District Sewerage Fund, South System Maintenance Account No. 8807: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $302,307.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 1,474.57 | | |
| | | $303,781.57 | | |
| Reduced by Chapter 387, Acts of 1939 | | —1,593.47 | | |
| | | $302,188.10 | $288,810.45 | $13,377.65 |
| Metropolitan District Sewerage Fund, South System Maintenance Specials Certain Pump Account No. 8807-21: | | | | |
| Chapter 309, Acts of 1939 | $23,000.00 | | | |
| Expended to Nov. 30, 1939 | — | | | |
| | | $23,000.00 | — | $23,000.00 |
| Hough's Neck Pumping Station Improvements Account No. 8807-22 | | | | |
| Chapter 309, Acts of 1939 | $45,000.00 | | | |
| Expended to Nov. 30, 1939 | — | | | |
| | | $45,000.00 | — | $45,000.00 |
| Metropolitan District Water Fund, Water System Construction General Water System Construction Account No. 8901-01: | | | | |
| General | $43,070,000.00 | | | |
| Receipts | 336,067.13 | | | |
| | $43,406,067.13 | | | |
| Expended to Nov. 30, 1939 | 43,368,003.67 | | | |
| | | $38,063.46 | | |
| Receipts year ending Nov. 30, 1940 | | 35.52 | | |
| | | $38,098.98 (cr.) | $361.44 | $38,460.42 |
| Property for Protection of Water Supply Account No. 8901-02: | | | | |
| Chapter 304, Acts of 1936 | $10,000.00 | | | |
| Chapter 234, Acts of 1937 | 15,000.00 | | | |
| Chapter 309, Acts of 1939 | 5,000.00 | | | |
| | $30,000.00 | | | |
| Expended to Nov. 30, 1939 | 13,696.96 | | | |
| | | $16,303.04 | $5,167.82 | $11,135.22 |
| Bathing Facilities, Sterling Account No. 8901-03 | | | | |
| Chapter 384, Acts of 1934 | $12,000.00 | | | |
| Chapter 234, Acts of 1937 | 402.61 | | | |
| Chapter 434, Acts of 1937 | 2,500.00 | | | |
| | $14,902.61 | | | |
| Expended to Nov. 30, 1939 | 14,616.35 | | | |
| | | $286.26 | $286.26 | — |
| Improvements, Supply Mains, etc. Account No. 8901-04: | | | | |
| Chapter 245, Acts of 1931 | $400,000.00 | | | |
| Chapter 170, Acts of 1932 | 350,000.00 | | | |
| Chapter 174, Acts of 1933 | 250,000.00 | | | |
| Chapter 162, Acts of 1934 | 300,000.00 | | | |
| Chapter 249, Acts of 1935 | 300,000.00 | | | |
| Chapter 304, Acts of 1936 | 300,000.00 | | | |
| Chapter 234, Acts of 1937 | 300,000.00 | | | |
| Chapter 356, Acts of 1938 | 250,000.00 | | | |
| | $2,450,000.00 | | | |

| | *Condition of Fund as of Dec. 1, 1939* | *Amount Available 1940* | *Expended 1940* | *Balance Dec. 1, 1940* |
|---|---|---|---|---|
| Metropolitan District Water Fund, | | | | |
| Water System Construction (continued) | | | | |
| Improvements, Supply Mains, etc. (continued) | | | | |
| Account No. 8901-04: (continued) | | | | |
| Transferred to Mass. P.W.A. D-203, Docket No. 1516-F (Account No. 8901-05) | —$184,800.00 | | | |
| | $2,265,200.00 | | | |
| Chapter 309, Acts of 1939 | 250,000.00 | | | |
| | $2,515,200.00 | | | |
| Reduced by Chapter 387, Acts of 1939 | —8.18 | | | |
| | $2,515,191.82 | | | |
| Expended to Nov. 30, 1939 | 2,281,500.09 | | | |
| | | $233,691.73 | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | 250,000.00 | | |
| | | $483,691.73 | | |
| Reduced by Chapter 387, Acts of 1939 | | —24.54 | | |
| | | $483,667.19 | | |
| Transferred to Mass. P.W.A. D-203, Docket No. 1516-F (Account No. 8901-05) | | —2,500.00 | | |
| | | $481,167.19 | | |
| Transferred from Mass. P.W.A. D-203, Docket No. 1516-F (Account No. 8901-05) | | 17,401.49 | | |
| | | $498,568.68 | $121,780.56 | $376,788.12 |
| Mass. P.W.A. D-203, Docket No. 1516-F | | | | |
| Account No. 8901-05: | | | | |
| Transferred from Improvements, Supply Mains, etc. | $184,800.00 | | | |
| Federal grants | 84,000.00 | | | |
| | $268,800.00 | | | |
| Expended to Nov. 30, 1939 | 250,822.58 | | | |
| | | $17,977.42 | | |
| Transferred from Improvements, Supply Mains, etc. (Account No. 8901-04) | | 2,500.00 | | |
| | | $20,477.42 | | |
| Federal grants | | 19,721.83 | | |
| | | $40,199.25 | | |
| Transferred to Improvements, Supply Mains, etc. (Account No. 8901-04) | | —17,401.49 | | |
| | | $22,797.76 | $22,797.76 | — |
| Metropolitan District Water Fund, | | | | |
| Water System Maintenance | | | | |
| Account No. 8902: | | | | |
| Chapter 309, Acts of 1939 (1940 appro.) | | $1,023,710.00 | | |
| Balance brought forward from 1939 appro. to cover 1939 expenditures on 1940 books | | 34,930.37 | | |
| | | $1,058,640.37 | | |
| Reduced by Chapter 387, Acts of 1939 | | —2,072.11 | | |
| | | $1,056,568.26 | $1,028,940.35 | $27,627.91 |
| Metropolitan District Water Fund, | | | | |
| Water System Maintenance | | | | |
| Special | | | | |
| Repairs to Water Main | | | | |
| Account No. 8902-21: | | | | |
| Chapter 434, Acts of 1937 | $10,000.00 | | | |
| Reappropriated by Chapter 309, Acts of 1939 | | | | |
| Expended to Nov. 30, 1939 | 8,388.89 | | | |
| | | $1,611.11 | $807.07 | $804.04 |
| P.W.A. Fund, Share with Special Bond Funds | | | | |
| Aberjona Sewer | | | | |
| Mass. State Project D-101, P.W.A. Docket No. Mass. 1098-R | | | | |
| Account No. 9101-01: | | | | |
| Chapter 478, Acts of 1935 | $1,800,000.00 | | | |
| Receipt, Malden Elec. Co. | 694.00 | | | |
| Federal grants | 1,176,126.69 | | | |
| | $2,976,820.69 | | | |
| Expended to Nov. 30, 1939 | 2,879,547.15 | | | |
| | | $97,273.54 | | |
| Federal grants | | 66,899.21 | | |
| | | $164,172.75 | $1,005.10 | $163,167.65 |

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Metropolitan District Sewerage Fund, North System Construction | | | | |
| New Mystic Valley Main Sewer | | | | |
| Account No. 9101-03: | | | | |
| Chapter 184, Acts of 1927 | $450,000.00 | | | |
| Chapter 381, Acts of 1931 | 20,482.25 | | | |
| | $470,482.25 | | | |
| Expended to Nov. 30, 1939 | 461,287.86 | $9,194.39 | — | $9,194.39 |
| Plans for Sewer System | | | | |
| Account No. 9101-04: | | | | |
| Chapter 433, Acts of 1937 | $270,000.00 | | | |
| Expended to Nov. 30, 1939 | 266,149.30 | $3,850.70 | $877.16 | $2,973.54 |
| P.W.A. Fund, Share with Special Bond Funds | | | | |
| Additional Sewers | | | | |
| Mass. State Project D-201, P.W.A. Docket No. 1419-F | | | | |
| Account No. 9101-05: | | | | |
| Chapter 459, Acts of 1938 | $2,500,000.00 | | | |
| Federal grants | 1,125,000.00 | | | |
| | $3,625,000.00 | | | |
| Expended to Nov. 30, 1939 | 2,083,857.39 | $1,541,142.61 | | |
| Federal grants | | 450,000.00 | | |
| | | $1,991,142.61 | | |
| Transferred to Mass. State Project D-204, P.W.A. Docket No. 1574-F (Supplementary) (Account No 9101-06) | | —328,174.00 | | |
| | | $1,662,968.61 | $1,485,441.83 | $177,526.78 |
| Siphon, Chelsea Creek | | | | |
| Mass. State Project D-204, P.W.A. Docket No. 1574-F (Supplementary) | | | | |
| Account No. 9101-06: | | | | |
| Transferred from Mass. State Project D-201, P.W.A. Docket No. 1419-F (Account No. 9101-05) | | $328,174.00 | $220,717.77 | $107,456.23 |
| Siphon, Chelsea Creek | | | | |
| Mass. State Project D-204, P.W.A. Docket No. 1574-F | | | | |
| Account No. 9101-07: | | | | |
| Chapter 491, Acts of 1938 | $250,000.00 | | | |
| Federal grants | 157,684.00 | | | |
| | $407,684.00 | | | |
| Expended to Nov. 30, 1939 | 306,244.69 | $101,439.31 | | |
| Federal grants | | 147,657.75 | | |
| | | $249,097.06 | $177,649.31 | $ 71,447.75 |
| Metropolitan District Sewerage Fund, South System Construction | | | | |
| Sewers in Quincy, Weymouth and Braintree | | | | |
| Account No. 9102-01: | | | | |
| Chapter 398, Acts of 1930 | $600,000.00 | | | |
| Expended to Nov. 30, 1939 | 572,176.39 | $27,823.61 | — | $27,823.61 |
| New Neponset Valley Main Sewer | | | | |
| Account No. 9102-02: | | | | |
| Chapter 384, Acts of 1928 | $2,365,000.00 | | | |
| Chapter 384, Acts of 1934 | 10,000.00 | | | |
| | $2,375,000.00 | | | |
| Expended to Nov. 30, 1939 | 2,374,323.83 | $676.17 | — | $676.17 |
| Metropolitan District Sewerage Construction Fund | | | | |
| Account No. 9105-01: | | | | |
| Chapter 512, Acts of 1939 | | $417,120.00 | $77,649.63 | $339,470.37 |
| Blue Hills Golf Course, Income | | | | |
| Account No. 8602: | | | | |
| Total receipts to Dec. 1, 1939 | $165,234.09 | | | |
| Total expenditures to Nov. 30, 1939 | 320.00 | $164,914.09 | | |
| Receipts year ending Nov. 30, 1940 | | 20,949.29 | | |
| | | $185,863.38 | — | $185,863.38 |
| Metropolitan District Trust Fund | | | | |
| Account No. 9001: | | | | |
| Total receipts to Dec. 1, 1939 | $42,385.86 | | | |
| Total expenditures to Nov. 30, 1939 | 41,821.82 | $564.04 | | |
| Receipts year ending Nov. 30, 1940 | | — | | |
| | | $564.04 | — | $564.04 |

| | Condition of Fund as of Dec. 1, 1939 | Amount Available 1940 | Expended 1940 | Balance Dec. 1, 1940 |
|---|---|---|---|---|
| Edwin U. Curtis Memorial | | | | |
| Account No. 9002: | | | | |
| Total receipts to Dec. 1, 1939 | $2,167.37 | | | |
| Total expenditures to Nov. 30, 1939 | 237.59 | | | |
| | | $1,929.78 | | |
| Receipts year ending Nov. 30, 1940 | | 63.00 | | |
| | | $1,992.78 | — | $1,992.78 |
| George R. Nutter Trust | | | | |
| Account No. 9003: | | | | |
| Total receipts to Dec. 1, 1939 | $1,008.75 | | | |
| Total expenditures to Nov. 30, 1939 | 1.56 | | | |
| | | $1,007.19 | | |
| Receipts year ending Nov. 30, 1940 | | 17.50 | | |
| | | $1,024.69 | — | $1,024.69 |

## RECEIPTS — YEAR ENDED NOVEMBER 30, 1940

| | | | | |
|---|---|---|---|---|
| Bunker Hill Monument Maintenance: | | | | |
| Account No. 2801-600 | Admissions, etc. | | | $3,476.66 |
| Highway Fund, Maintenance of Boulevards and Parkways: | | | | |
| Account No. 2900-906 | Prior Years Refunds | | $659.51 | |
| Account No. 2931-403 | Telephone and lighting services | | 792.35 | |
| | | | | 1,451.86 |
| Metropolitan Water District | | | | |
| Hurricane and Flood Damage: | | | | |
| Account No. 8289-400 | Sale of timber | | | 361.75 |
| Metropolitan Parks Maintenance, General Parks Maintenance: | | | | |
| Account No. 8602-200 | Golf course fees | | $20,949.29 | |
| 401 | Rents | | 12,528.24 | |
| 403 | Telephone and lighting services | | 818.35 | |
| | | | | 34,295.88 |
| Metropolitan Parks Fund, Special: | | | | |
| Account No. 8603-201 | Bath house receipts | | $26,186.85 | |
| 202 | Golf course fees | | 18,506.80 | |
| 300 | Court fines | | 2,453.50 | |
| 400 | Sales and rentals | | 57,662.28 | |
| 600 | Miscellaneous | | 5,381.37 | |
| | | | | 110,190.80 |
| Metropolitan District Sewerage Fund, North System: | | | | |
| Account No. 8802-402 | Rents | | $6,264.12 | |
| 403 | Telephone and lighting services | | 409.18 | |
| 404 | Sales of services | | 54.40 | |
| 405 | Miscellaneous sales | | 24.00 | |
| 600 | Miscellaneous | | 118.46 | |
| | | | | 6,870.16 |
| Metropolitan District Sewerage Fund, South System: | | | | |
| Account No. 8807-402 | Rents | | $6,264.12 | |
| 403 | Telephone and lighting services | | 409.17 | |
| 404 | Sale of materials | | 20.00 | |
| 405 | Miscellaneous sales | | 87.50 | |
| | | | | 6,780.79 |
| Metropolitan District Water Fund, Water System Construction: | | | | |
| Account No. 8901-402 | Sale of materials | | | 35.52 |
| Metropolitan District Water Fund, Water System Maintenance: | | | | |
| Account No. 8902-402 | Rents | | $12,528.23 | |
| 403 | Telephone and lighting services | | 818.36 | |
| 404 | Reimbursement for services | | 1,258.44 | |
| 405 | Sale of materials | | 35.20 | |
| 406 | Miscellaneous sales | | 1,036.32 | |
| 600 | Miscellaneous | | 803.05 | |
| | | | | 16,479.60 |
| Metropolitan Sewerage Loan Interest, North System: | | | | |
| Account No. 9601-904 | | | | 226.00 |
| Metropolitan Water Loan Interest: | | | | |
| Account No. 9601-906 | | | | 90.00 |
| Metropolitan Sewerage Sinking Fund, North System | | | | |
| Account No. 9840-402 | Rents | | | 1,239.00 |
| Metropolitan Sewerage Sinking Fund, South System: | | | | |
| Account No. 9850-402 | Rents | | | 144.00 |
| Metropolitan Water Sinking Fund: | | | | |
| Account No. 9860-402 | Rents | | 7,455.00 | |
| 403 | Power | | 60,442.41 | |
| 404 | Water | | 36,108.97 | |
| 405 | Other sales | | 942.51 | |
| | | | | 104,948.89 |
| | | | | $286,590.91 |

Financial Statement Verified by:
JAMES F. ROCHE, June 16, 1941.

Verified:
WALTER S. MORGAN,
*Comptroller.*

## APPENDIX NO. 1

*Information relating to the Parks Division appears in the following tables:*

### Table 1

The following is a record of the traffic through the locks and drawbridges during the year.

*Charles River Dam Lock and Drawbridge*

| | |
|---|---|
| Number of openings of highway drawbridge | 2,193 |
| Number of openings of lock | 4,602 |
| Number of vessels | 2,304 |
| Number of small boats | 8,977 |
| Sand (tons) | 154,383 |
| Gravel (tons) | 74,735 |
| Oil (gallons) | 45,501,913 |
| Lumber (feet B.M.) | 1,387,000 |
| Granite (tons) | 638 |
| Lathes (feet) | 634,000 |
| Coal tar (gallons) | 300,000 |
| Piles | 30 |

*Cradock Bridge Lock*

| | |
|---|---|
| Number of openings | 87 |
| Number of boats through lock | 105 |
| Number of boats over rolls | 87 |

*Dorchester Bay Drawbridge*

| | |
|---|---|
| Number of openings | 1,430 |
| Number of vessels | 1,814 |

*General Edwards Drawbridge*

| | |
|---|---|
| Number of openings | 290 |
| Number of vessels | 459 |

*Malden River Drawbridge*

| | |
|---|---|
| Number of openings | 238 |
| Number of vessels | 472 |

*Mystic River Drawbridge*

| | |
|---|---|
| Number of openings | 16 |
| Number of vessels | 16 |

*Neponset River Drawbridge*

| | |
|---|---|
| Number of openings | 363 |
| Number of vessels | 412 |

# APPENDIX No. 2

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1940*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WACHUSETT WATERSHED | | | | | | | | | | | | | |
| Princeton | 3.98 | 3.83 | 5.03 | 6.17 | 5.80 | 2.45 | 6.08 | 1.61 | 2.03 | 1.06 | 6.80 | 3.31 | 48.15 |
| Jefferson | 3.51 | 5.63 | 4.84 | 6.57 | 5.31 | 2.07 | 4.86 | 1.51 | 2.58 | 1.23 | 7.44 | 2.87 | 48.42 |
| Sterling | 3.30 | 3.90 | 4.20 | 5.82 | 5.36 | 2.41 | 3.27 | 1.72 | 1.83 | 1.13 | 7.15 | 2.74 | 42.83 |
| Boylston | 3.20 | 4.94 | 4.31 | 5.93 | 5.51. | 3.05 | 3.99 | 1.54 | 3.46 | 1.08 | 7.23 | 2.66 | 46.90 |
| SUDBURY WATERSHED | | | | | | | | | | | | | |
| Sudbury Dam | 2.25 | 5.68 | 3.90 | 5.61 | 4.50 | 2.04 | 4.38 | 1.83 | 3.08 | 1.01 | 6.82 | 2.72 | 43.82 |
| Framingham | 2.61 | 6.47 | 4.56 | 5.40 | 4.39 | 1.93 | 3.84 | 2.06 | 3.63 | 1.02 | 6.90 | 2.75 | 45.56 |
| Ashland Dam | 2.37 | 5.82 | 3.93 | 5.54 | 4.29 | 2.20 | 4.15 | 1.61 | 3.73 | 1.28 | 7.01 | 2.71 | 44.54 |
| Cordaville | 2.60 | 6.49 | 4.02 | 6.11 | 4.82 | 2.11 | 5.02 | 2.22 | 3.70 | 1.68 | 6.58 | 2.83 | 48.18 |
| LAKE COCHITUATE | 2.78 | 6.38 | 4.17 | 6.58 | 4.57 | 2.81 | 4.31 | 1.91 | 4.05 | 1.17 | 7.49 | 3.23 | 49.45 |
| Chestnut Hill Reservoir | 2.16 | 4.55 | 3.67 | 4.99 | 3.50 | 1.79 | 3.85 | 1.81 | 2.73 | 0.87 | 6.36 | 2.58 | 38.86 |
| Spot Pond | 2.55 | 5.59 | 4.08 | 5.19 | 3.89 | 2.45 | 4.02 | 1.23 | 3.46 | 1.00 | 6.79 | 2.76 | 43.01 |
| Average of All | 2.85 | 5.39 | 4.24 | 5.81 | 4.72 | 2.30 | 4.34 | 1.73 | 3.12 | 1.14 | 6.96 | 2.83 | 45.43 |
| Average, Wachusett Watershed | 3.50 | 4.58 | 4.59 | 6.12 | 5.49 | 2.50 | 4.55 | 1.60 | 2.47 | 1.13 | 7.15 | 2.90 | 46.58 |
| Average, Sudbury Watershed | 2.46 | 6.11 | 4.08 | 5.66 | 4.50 | 2.07 | 4.35 | 1.93 | 3.54 | 1.25 | 6.83 | 2.75 | 45.53 |

## Table No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1940*

| Date | Amount | Duration |
|---|---|---|
| Jan. 5 | 0.09 [1] | 5.00 P.M. to 4.20 A.M. |
| Jan. 6 | | |
| Jan. 8 | 0.08 [1] | 7.05 A.M. to 9.30 P.M. |
| Jan. 11 | 0.26 [1] | 9.10 P.M. to 6.30 A.M. |
| Jan. 13 | | |
| Jan. 14 | 1.50 | 6.00 P.M. to 6.50 A.M. |
| Jan. 15 | | |
| Jan. 19 | 0.17 [1] | 4.30 A.M. to 1.20 P.M. |
| Jan. 25 | 0.06 [1] | 2.10 A.M. to 6.50 A.M. |
| Total | 2.16 | |
| Feb. 2 | 0.02 [1] | 8.40 A.M. to 11.20 A.M. |
| Feb. 6 | 0.21 [2] | 3.00 P.M. to 1.30 A.M. |
| Feb. 7 | | |
| Feb. 10 | 0.79 [2] | 1.20 A.M. to 10.45 A.M. |
| Feb. 11 | | |
| Feb. 14 | 1.45 [1] | 2.30 P.M. to 6.45 A.M. |
| Feb. 15 | | |
| Feb. 19 | 1.97 [2] | 1.30 P.M. to 10.15 A.M. |
| Feb. 21 | | |
| Feb. 24 | 0.02 [2] | 11.00 P.M. to 2.00 A.M. |
| Feb. 25 | | |
| Feb. 27 | 0.09 [1] | 6.00 P.M. to 11.15 P.M. |
| Feb. 28 | | |
| Total | 4.55 | |
| Mar. 3 | 1.51 | 1.00 P.M. to 8.10 A.M. |
| Mar. 6 | | |
| Mar. 15 | 1.04 | 2.15 A.M. to 1.30 P.M. |
| Mar. 19 | 0.30 | 7.10 A.M. to 11.50 A.M. |
| Mar. 20 | 0.13 | 7.45 P.M. to 11.20 P.M. |
| Mar. 22 | 0.09 [2] | 7.20 A.M. to 3.20 P.M. |
| Mar. 27 | Trace [1] | 11.10 P.M. to 3.30 A.M. |
| Mar. 28 | | |
| Mar. 29 | 0.05 | 9.30 P.M. to 6.45 A.M. |
| Mar. 30 | | |
| Mar. 30 | 0.55 | 4.00 P.M. to 3.30 A.M. |
| Mar. 31 | | |
| Total | 3.67 | |

| Date | Amount | Duration |
|---|---|---|
| Apr. 4 | 0.55 | 12.01 A.M. to 3.30 A.M. |
| Apr. 5 | | |
| Apr. 8 | 0.76 | 11.30 A.M. to 3.30 A.M. |
| Apr. 9 | | |
| Apr. 12 | 1.43 | 5.30 A.M. to 9.10 A.M. |
| Apr. 13 | | |
| Apr. 16 | 0.02 | 5.10 P.M. to 12.30 A.M. |
| Apr. 17 | | |
| Apr. 18 | 0.39 | 4.10 A.M. to 1.30 P.M. |
| Apr. 20 | 1.39 | 6.10 A.M. to 4.30 A.M. |
| Apr. 21 | | |
| Apr. 21 | 0.34 [2] | 7.30 A.M. to 11.15 P.M. |
| Apr. 22 | | |
| Apr. 25 | 0.10 | 1.05 P.M. to 7.50 P.M. |
| May 1 | 0.01 | 4.30 A.M. to 5.50 A.M. |
| Total | 4.99 | |
| May 1 | 0.04 | 5.10 P.M. to 3.20 A.M. |
| May 2 | | |
| May 2 | 0.27 | 1.15 P.M. to 6.10 A.M. |
| May 4 | | |
| May 4 | 0.37 | 7.20 A.M. to 6.50 A.M. |
| May 5 | | |
| May 17 | 0.15 | 7.45 A.M. to 3.20 P.M. |
| May 21 | 0.11 | 2.00 A.M. to 6.50 A.M. |
| May 22 | 0.38 | 5.30 P.M. to 4.50 A.M. |
| May 24 | | |
| May 24 | 0.42 | 2.00 P.M. to 4.40 A.M. |
| May 27 | | |
| May 28 | 0.36 | 9.05 A.M. to 6.30 A.M. |
| May 29 | | |
| May 31 | 1.40 | 8.05 A.M. to 1.30 A.M. |
| June 1 | | |
| Total | 3.50 | |
| June 5 | 0.01 | 3.10 P.M. to 4.02 P.M. |
| June 9 | 0.03 | 10.30 A.M. to 4.20 A.M. |
| June 10 | | |
| June 10 | 0.19 | 8.10 A.M. to 7.30 P.M. |
| June 12 | 0.01 | 2.20 A.M. to 5.40 A.M. |
| June 15 | 0.06 | 7.05 P.M. to 9.20 P.M. |
| June 19 | 0.05 | 2.05 A.M. to 4.10 A.M. |
| June 19 | 0.19 | 3.45 P.M. to 4.35 P.M. |
| June 24 | 0.33 | 1.20 P.M. to 2.30 A.M. |
| June 25 | | |
| June 25 | 0.70 | 7.05 A.M. to 3.05 P.M. |
| June 26 | | |
| June 27 | 0.04 | 4.00 P.M. to 6.30 P.M. |
| June 28 | 0.17 | 6.15 P.M. to 4.10 A.M. |
| June 29 | | |
| June 30 | 0.01 | 9.45 P.M. to 10.50 P.M. |
| Total | 1.79 | |

[1] Snow.
[2] Rain and Snow.

## Table No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1940*

| Date | Amount | Duration |
|---|---|---|
| July 1 | 0.13 | 5.00 P.M. to 6.20 P.M. |
| July 3 | 1.45 | 11.45 A.M. to |
| July 4 | | 11.10 A.M. |
| July 5 | 0.04 | 6.10 P.M. to 7.45 P.M. |
| July 9 | 0.34 | 5.55 P.M. to 7.40 P.M. |
| July 11 | 0.61 | 9.10 A.M. to |
| July 12 | | 8.10 P.M. |
| July 16 | 0.22 | 1.45 P.M. to 4.10 P.M. |
| July 20 | 0.69 | 9.10 A.M. to |
| July 21 | | 1.45 P.M. |
| July 22 | 0.02 | 6.10 P.M. to 7.30 P.M. |
| July 30 | 0.02 | 5.10 A.M. to 6.30 A.M. |
| July 30 | 0.33 | 5.30 P.M. to 7.50 P.M. |
| Total | 3.85 | |
| Aug. 7 | 0.07 | 3.10 A.M. to 6.50 A.M. |
| Aug. 18 | 0.12 | 9.05 P.M. to |
| Aug. 19 | | 4.10 A.M. |
| Aug. 19 | 0.27 | 10.05 P.M. to |
| Aug. 20 | | 3.45 A.M. |
| Aug. 23 | 1.16 | 10.45 A.M. to 11.20 P.M. |
| Aug. 29 | 0.07 | 8.05 P.M. to |
| Aug. 30 | | 6.30 A.M. |
| Aug. 30 | 0.12 | 2.45 P.M. to |
| Aug. 31 | | 2.40 A.M. |
| Total | 1.81 | |
| Sept. 2 | 0.11 | 3.45 A.M. to 7.00 A.M. |
| Sept. 5 | 0.01 | 6.30 P.M. to 7.10 P.M. |
| Sept. 6 | 0.20 | 6.10 P.M. to 8.10 P.M. |
| Sept. 9 | 0.06 | 12.10 P.M. to 11.10 P.M. |
| Sept. 10 | 0.47 | 1.05 P.M. to 6.30 P.M. |
| Sept. 11 | 0.17 | 3.00 P.M. to |
| Sept. 12 | | 2.30 A.M. |
| Sept. 16 | 0.26 | 3.55 A.M. to 3.30 P.M. |
| Sept. 21 | 0.22 | 4.10 P.M. to |
| Sept. 22 | | 1.20 A.M. |
| Sept. 25 | 0.04 | 2.30 A.M. to 6.10 A.M. |
| Sept. 25 | 1.19 | 7.10 A.M. to 11.20 P.M. |
| Total | 2.73 | |
| Oct. 2 | 0.08 | 10.00 P.M. to |
| Oct. 3 | | 3.50 A.M. |
| Oct. 8 | 0.13 | 3.50 P.M. to |
| Oct. 9 | | 12.35 A.M. |
| Oct. 15 | 0.12 | 5.00 P.M. to 6.30 P.M. |
| Oct. 17 | 0.07 | 4.10 P.M. to |
| Oct. 18 | | 4.30 A.M. |
| Oct. 25 | 0.02 | 6.30 P.M. to 9.10 P.M. |
| Oct. 30 | 0.45 | 6.25 P.M. to |
| Oct. 31 | | 4.45 A.M. |
| Total | 0.87 | |
| Nov. 2 | 1.22 | 7.05 A.M. to 9.30 P.M. |
| Nov. 6 | 0.05 | 3.50 A.M. to 6.55 A.M. |
| Nov. 12 | 0.03 | 1.15 A.M. to 3.15 A.M. |
| Nov. 12 | 0.95 | 10.00 A.M. to |
| Nov. 13 | | 3.30 A.M. |
| Nov. 13 | 2.53 | 8.00 A.M. to |
| Nov. 15 | | 3.20 P.M. |
| Nov. 23 | 0.04 | 4.30 P.M. to |
| Nov. 24 | | 6.20 A.M. |
| Nov. 25 | Trace | 7.30 A.M. to 8.25 A.M. |
| Nov. 26 | 1.29 [2] | 11.15 P.M. to |
| Nov. 27 | | 11.05 A.M. |
| Nov. 29 | Trace | 2.15 P.M. to 6.30 P.M. |
| Nov. 30 | 0.25 [2] | 9.00 P.M. to |
| Dec. 1 | | 6.55 A.M. |
| Total | 6.36 | |
| Dec. 4 | 0.33 [2] | 7.10 P.M. to |
| Dec. 5 | | 4.45 P.M. |
| Dec. 7 | 0.11 | 8.30 A.M. to 4.30 P.M. |
| Dec. 12 | 0.08 [2] | 9.30 A.M. to |
| Dec. 13 | | 3.00 A.M. |
| Dec. 16 | 1.01 | 10.10 A.M. to 12.00 Mid. |
| Dec. 20 | 0.01 | 3.30 A.M. to 4.50 A.M. |
| Dec. 20 | 0.03 | 8.20 A.M. to 11.10 A.M. |
| Dec. 22 | 0.02 | 11.20 A.M. to 4.30 P.M. |
| Dec. 28 | 0.02 | 4.30 A.M. to 6.40 A.M. |
| Dec. 29 | 0.89 | 3.40 A.M. to 11.30 P.M. |
| Dec. 30 | 0.08 | 7.00 A.M. to 10.30 A.M. |
| Total | 2.58 | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 38.86

TABLE NO. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1940*

(Watershed above dam = 107.69 square miles)

| MONTH | GALLONS PER DAY | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Taken[1] by Town of Clinton* | *Taken by City of Worcester* | *Received from Ware River Watershed* | *Received[2] from City of Worcester Watershed* | *Discharged[3] into Wachusett Aqueduct* | *Wasted into River below Dam* | *Seepage[4] through the North Dike* | STORAGE[5] *Gain* | STORAGE[5] *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall Collected* |
| January | 1,145,000 | – | – | – | 135,216,000 | 1,726,000 | 600,000 | – | 60,703,000 | 77,984,000 | 724,000 | 3.50 | 1.292 | 36.9 |
| February | 1,131,000 | – | – | – | 112,972,000 | 1,728,000 | 600,000 | – | 34,386,000 | 82,045,000 | 762,000 | 4.58 | 1.272 | 27.8 |
| March | 1,084,000 | – | 445,000 | – | 66,348,000 | 1,707,000 | 603,000 | 99,929,000 | – | 169,226,000 | 1,571,000 | 4.59 | 2.803 | 61.0 |
| April | 980,000 | – | 61,463,000 | 8,267,000 | 62,397,000 | 1,723,000 | 837,000 | 575,150,000 | – | 571,357,000 | 5,306,000 | 6.12 | 9.159 | 149.6 |
| May | 22,000 | – | – | 4,274,000 | 72,523,000 | 1,713,000 | 987,000 | 137,913,000 | – | 208,884,000 | 1,940,000 | 5.49 | 3.460 | 63.0 |
| June | 120,000 | – | – | 4,404,000 | 115,990,000 | 5,380,000 | 1,000,000 | – | 3,563,000 | 114,523,000 | 1,063,000 | 2.50 | 1.836 | 73.6 |
| July | 600,000 | – | – | – | 82,442,000 | 1,910,000 | 1,000,000 | – | 25,781,000 | 60,171,000 | 559,000 | 4.55 | 0.997 | 21.9 |
| August | 952,000 | – | – | – | 183,803,000 | 1,777,000 | 935,000 | – | 165,393,000 | 22,074,000 | 205,000 | 1.60 | 0.365 | 22.9 |
| September | 963,000 | – | – | – | 177,380,000 | 1,714,000 | 893,000 | – | 151,263,000 | 29,687,000 | 276,000 | 2.47 | 0.475 | 19.2 |
| October | 910,000 | – | – | – | 163,300,000 | 1,719,000 | 800,000 | – | 145,958,000 | 20,771,000 | 193,000 | 1.13 | 0.344 | 30.6 |
| November | – | – | – | – | 86,260,000 | 1,710,000 | 800,000 | 383,000 | – | 89,153,000 | 828,000 | 7.15 | 1.429 | 20.0 |
| December | – | – | – | – | 112,732,000 | 1,726,000 | 800,000 | – | 7,019,000 | 108,239,000 | 1,005,000 | 2.90 | 1.793 | 61.9 |
| Total | | | | | | | | | | | | 46.58 | 25.225 | 54.2 |
| Av. for Yr. | 658,000 | – | 5,076,000 | 1,401,000 | 114,329,000 | 2,040,000 | 822,000 | 17,614,000 | – | 128,986,000 | 1,198,000 | | | |

[1] For water supply of Clinton and Lancaster.

[2] Received from City of Worcester Watershed, not included in Wachusett Watershed yield.

[3] Including 224,000 gallons per day drawn from aqueduct for supply of Westborough State Hospital and 569,000 gallons per day delivered to Pressure Aqueduct for cleaning, sterilizing and testing.

[4] Estimated.

[5] Aggregate storage in Wachusett Reservoir and in ponds and mill reservoirs.

## TABLE NO. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1940*

(Watershed=75.2 square miles)

| MONTH | GALLONS PER DAY | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Water[1] received from Wachusett Reservoir* | *Water[2] discharged through Sudbury Aqueduct* | *Water[3] discharged through Weston Aqueduct* | *Water used by Framingham Water Works* | *Water diverted from Watershed by Sewers, etc.* | *Water wasted from Farm Pond* | *Water wasted into River below Lowest Dam* | STORAGE *Gain* | STORAGE *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall Collected* |
| January | 134,990,000 | 23,687,000 | 118,129,000 | 32,000 | 455,000 | – | 20,977,000 | 10,500,000 | – | 38,790,000 | 516,000 | 2.46 | 0.920 | 37.4 |
| February | 112,755,000 | 19,686,000 | 118,183,000 | – | 434,000 | 583,000 | 35,731,000 | – | 22,272,000 | 39,590,000 | 526,000 | 6.11 | 0.879 | 14.4 |
| March | 66,132,000 | 18,171,000 | 118,348,000 | – | 1,655,000 | 897,000 | 82,264,000 | 9,597,000 | – | 164,800,000 | 2,191,000 | 4.08 | 3.909 | 95.9 |
| April | 62,180,000 | 13,813,000 | 110,837,000 | 26,000 | 2,617,000 | 1,110,000 | 185,147,000 | 47,063,000 | – | 298,433,000 | 3,969,000 | 5.66 | 6.850 | 120.9 |
| May | 72,300,000 | 16,094,000 | 111,113,000 | 3,000 | 1,110,000 | 348,000 | 72,748,000 | – | 12,190,000 | 116,926,000 | 1,555,000 | 4.50 | 2.774 | 61.6 |
| June | 115,760,000 | 19,987,000 | 117,247,000 | 3,000 | 857,000 | 160,000 | 48,073,000 | – | 9,540,000 | 61,027,000 | 812,000 | 2.07 | 1.401 | 67.7 |
| July | 82,206,000 | 24,500,000 | 119,806,000 | 10,000 | 384,000 | 35,000 | 23,742,000 | – | 51,913,000 | 34,358,000 | 457,000 | 4.35 | 0.815 | 18.7 |
| August | 183,290,000 | 27,016,000 | 121,839,000 | 3,000 | 103,000 | – | 3,829,000 | 19,303,000 | – | -11,197,000 | –149,000 | 1.93 | –0.265 | –13.7 |
| September | 177,153,000 | 24,943,000 | 116,160,000 | 10,000 | 230,000 | – | 6,227,000 | 28,280,000 | – | –1,303,000 | –17,000 | 3.54 | –0.030 | –0.8 |
| October | 156,636,000 | 22,116,000 | 116,103,000 | 16,000 | 310,000 | – | 3,865,000 | 7,413,000 | – | –6,813,000 | –91,000 | 1.25 | –0.162 | –13.0 |
| November | 86,043,000 | 27,557,000 | 104,020,000 | 3,000 | 987,000 | 236,000 | 43,857,000 | – | 17,760,000 | 72,857,000 | 969,000 | 6.83 | 1.672 | 24.5 |
| December | 112,523,000 | 26,703,000 | 114,371,000 | 16,000 | 1,049,000 | 532,000 | 52,249,000 | – | 9,529,000 | 72,868,000 | 969,000 | 2.75 | 1.728 | 62.8 |
| Total Av. for Year | 113,536,000 | 22,040,000 | 115,536,000 | 10,000 | 848,000 | 323,000 | 48,047,000 | – | 98,000 | 73,170,000 | 973,000 | 45.53 | 20.491 | 45.0 |

[1]Not including 224,000 gallons per day drawn from Wachusett Aqueduct for the supply of the Westborough State Hospital, and not including 569,000 gallons per day delivered to Pressure Aqueduct for cleaning, sterilizing and testing.

[2]Includes 5,000 gallons per day to Lake Cochituate.

[3]Includes 2,000 gallons per day wasted cleaning aqueduct.

TABLE NO. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1940*

(Watershed of Lake=17.40 square miles)

| MONTH | GALLONS PER DAY | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|
| | Water received from Sudbury Aqueduct | Water diverted from Watershed by Sewers, etc. | Water wasted at Outlet of Lake | STORAGE | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | | | Gain | Loss | | | | | |
| January | – | 1,006,000 | 11,129,000 | – | 1,319,000 | 10,816,000 | 622,000 | 2.78 | 1.109 | 39.9 |
| February | 69,000 | 666,000 | 21,121,000 | – | 10,290,000 | 11,428,000 | 657,000 | 6.38 | 1.096 | 17.2 |
| March | – | 1,958,000 | 27,200,000 | 13,529,000 | – | 42,687,000 | 2,453,000 | 4.17 | 4.376 | 104.9 |
| April | – | 2,650,000 | 54,100,000 | – | 3,657,000 | 53,093,000 | 3,051,000 | 6.58 | 5.267 | 80.0 |
| May | – | 1,803,000 | 18,023,000 | 3,955,000 | – | 23,781,000 | 1,367,000 | 4.57 | 2.438 | 53.3 |
| June | – | 1,283,000 | 10,840,000 | – | 1,500,000 | 10,623,000 | 611,000 | 2.81 | 1.054 | 37.5 |
| July | – | 822,000 | 5,113,000 | 1,155,000 | – | 7,090,000 | 407,000 | 4.31 | 0.727 | 16.9 |
| August | – | 432,000 | – | – | 993,000 | –561,000 | –32,000 | 1.91 | –0.058 | –3.0 |
| September | – | 600,000 | – | 1,343,000 | – | 1,943,000 | 112,000 | 4.05 | 0.193 | 4.8 |
| October | – | 571,000 | 5,442,000 | – | 5,787,000 | 226,000 | 13,000 | 1.17 | 0.023 | 2.0 |
| November | – | 837,000 | 15,510,000 | – | 1,617,000 | 14,730,000 | 847,000 | 7.49 | 1.461 | 19.5 |
| December | – | 1,229,000 | 9,774,000 | 4,526,000 | – | 15,529,000 | 892,000 | 3.23 | 1.592 | 49.3 |
| Total | | | | | | | | 49.45 | 19.278 | 39.0 |
| Average for Year | 5,000 | 1,155,000 | 14,763,000 | 15,000 | – | 15,928,000 | 915,000 | | | |

TABLE No. 6. — *Sources from which and Periods during which Water has been drawn for the Supply of the Metropolitan Water District in 1940*
*From Wachusett Reservoir into the Wachusett Aqueduct*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | * *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| January | 26 | 346 | 40 | 4,191.7 |
| February | 24 | 271 | 20 | 3,276.2 |
| March | 26 | 170 | 55 | 2,056.8 |
| April | 23 | 154 | 40 | 1,871.9 |
| May | 22 | 185 | 05 | 2,248.2 |
| June | 22 | 287 | 20 | 3,479.7 |
| July | 18 | 224 | 15 | 2,555.7 |
| August | 30 | 659 | 40 | 5,697.9 |
| September | 30 | 720 | 00 | 5,321.4 |
| October | 30 | 612 | 45 | 5,062.3 |
| November | 24 | 222 | 00 | 2,587.8 |
| December | 25 | 313 | 05 | 3,494.7 |
| Totals | 300 | 173.656 days | | 41,844.3 |

*Including quantity supplied Westborough State Hospital and quantity used in cleaning, sterilizing and testing Pressure Aqueduct.

*From Sudbury Reservoir through the Weston Aqueduct to Weston Reservoir*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| January | 31 | 744 | 00 | 3,662.0 |
| February | 29 | 694 | 09 | 3,426.9 |
| March | 31 | 743 | 53 | 3,668.8 |
| April | 30 | 719 | 00 | 3,324.7 |
| May | 31 | 744 | 00 | 3,444.5 |
| June | 30 | 720 | 00 | 3,517.4 |
| July | 31 | 744 | 00 | 3,714.0 |
| August | 31 | 744 | 00 | 3,777.0 |
| September | 30 | 721 | 00 | 3,484.8 |
| October | 31 | 739 | 30 | 3,599.2 |
| November | 27 | 632 | 30 | 3,120.6 |
| December | 31 | 744 | 00 | 3,545.5 |
| Totals | 363 | 362.085 days | | 42,285.4 |

*From Framingham Reservoir No. 3 through Sudbury Aqueduct to Chestnut Hill Reservoir*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| January | 31 | 744 | 00 | 734.3 |
| February | 29 | 690 | 45 | 568.9 |
| March | 31 | 744 | 00 | 563.3 |
| April | 30 | 719 | 00 | 414.4 |
| May | 31 | 744 | 00 | 498.9 |
| June | 30 | 720 | 00 | 599.6 |
| July | 31 | 744 | 00 | 759.5 |
| August | 31 | 744 | 00 | 837.5 |
| September | 30 | 721 | 00 | 748.3 |
| October | 31 | 744 | 00 | 685.6 |
| November | 30 | 720 | 00 | 826.7 |
| December | 31 | 744 | 00 | 827.8 |
| Totals | 366 | 365.781 days | | 8,064.8 |

TABLE NO. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1940 by Months*

| MONTHS | *Wachusett Aqueduct into Sudbury Reservoir (Gallons)* | *Weston Aqueduct into Metropolitan District (Gallons)* | *Sudbury Aqueduct into Chestnut Hill Reservoir (Gallons)* | *Cochituate Aqueduct into Chestnut Hill Reservoir (Gallons)* |
|---|---|---|---|---|
| January | 134,990,000 | 118,129,000 | 23,687,000 | — |
| February | 112,755,000 | 118,169,000 | 19,617,000 | — |
| March | 66,132,000 | 118,348,000 | 18,171,000 | — |
| April | 62,180,000 | 110,823,000 | 13,813,000 | — |
| May | 72,300,000 | 111,113,000 | 16,094,000 | — |
| June | 115,760,000 | 117,247,000 | 19,987,000 | — |
| July | 82,206,000 | 119,806,000 | 24,500,000 | — |
| August | 183,290,000 | 121,839,000 | 27,016,000 | — |
| September | 177,153,000 | 116,160,000 | 24,943,000 | — |
| October | 156,636,000 | 116,103,000 | 22,116,000 | — |
| November | 86,043,000 | 104,020,000 | 27,557,000 | — |
| December | 112,523,000 | 114,371,000 | 26,703,000 | — |
| Average | 113,536,000 | 115,534,000 | 22,035,000 | — |

TABLE No. 8. — (*Meter Basis*). *Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1940*

| MONTH | LOW SERVICE | SOUTHERN HIGH SERVICE | INTERMEDIATE HIGH SERVICE | NORTHERN HIGH SERVICE | SOUTHERN EXTRA HIGH SERVICE | NORTHERN EXTRA HIGH SERVICE | *Total District Supplied (Gallons)* | *Estimated Population* | *Consumption per Inhabitant (Gallons)* |
|---|---|---|---|---|---|---|---|---|---|
| | *Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | *Quincy and Portions of Boston, Milton and Watertown (Gallons)* | *Portions of Arlington Belmont and Watertown (Gallons)* | *Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)* | *Portions of Boston and Milton (Gallons)* | *Lexington and Portions of Arlington and Belmont (Gallons)* | | | |
| January | 76,829,100 | 49,148,400 | 1,375,100 | 12,803,400 | 1,644,400 | 1,694,300 | 143,494,700 | 1,391,840 | 103 |
| February | 74,790,100 | 48,185,300 | 1,307,800 | 12,731,100 | 1,725,400 | 1,643,200 | 140,382,900 | 1,391,900 | 101 |
| March | 73,047,800 | 46,113,400 | 1,296,800 | 12,572,500 | 1,788,600 | 1,601,400 | 136,420,500 | 1,391,950 | 98 |
| April | 69,448,300 | 45,036,300 | 1,249,600 | 12,447,900 | 1,802,000 | 1,547,500 | 131,531,600 | 1,392,010 | 94 |
| May | 68,422,700 | 45,147,700 | 1,276,700 | 12,506,300 | 1,811,800 | 1,738,100 | 130,903,300 | 1,392,060 | 94 |
| June | 72,023,800 | 46,975,800 | 1,343,300 | 13,299,700 | 1,935,500 | 2,048,800 | 137,626,900 | 1,392,120 | 99 |
| July | 75,500,200 | 50,100,500 | 1,314,600 | 14,440,100 | 2,037,100 | 2,271,500 | 145,664,000 | 1,392,170 | 105 |
| August | 76,209,400 | 49,473,700 | 1,470,300 | 14,922,600 | 2,142,600 | 2,570,300 | 146,788,900 | 1,392,230 | 105 |
| September | 73,375,800 | 48,840,600 | 1,304,500 | 13,659,000 | 1,825,000 | 1,740,200 | 140,745,100 | 1,392,280 | 101 |
| October | 72,415,000 | 47,414,700 | 1,263,100 | 13,119,200 | 1,753,000 | 1,691,700 | 137,656,700 | 1,392,340 | 99 |
| November | 69,736,600 | 45,498,300 | 1,242,200 | 13,123,900 | 1,696,700 | 1,596,200 | 132,893,900 | 1,392,390 | 95 |
| December | 77,832,200 | 50,243,000 | 1,235,200 | 12,940,500 | 1,690,100 | 1,592,500 | 145,533,500 | 1,392,450 | 105 |
| For the Year | 73,318,100 | 47,690,700 | 1,306,900 | 13,217,300 | 1,821,600 | 1,813,000 | 139,167,600 | 1,392,170 | 100 |

TABLE NO. 9. — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1940*

| City or Town | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Population | 40,110 | | 27,000 | | 770,560 | | 41,140 | | 46,740 | | 13,280 | | 58,000 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| January | 2,174,100 | 54 | 1,546,300 | 58 | 99,211,800 | 129 | 3,540,100 | 86 | 5,015,100 | 107 | 589,200 | 45 | 4,085,500 | 70 |
| February | 2,128,600 | 53 | 1,450,800 | 54 | 96,864,800 | 126 | 3,352,900 | 81 | 4,638,700 | 99 | 599,900 | 46 | 4,011,700 | 69 |
| March | 2,041,900 | 51 | 1,448,900 | 54 | 93,423,500 | 121 | 3,370,400 | 82 | 4,590,300 | 98 | 596,800 | 45 | 4,109,600 | 71 |
| April | 1,982,400 | 50 | 1,388,800 | 52 | 89,942,800 | 117 | 3,307,500 | 80 | 4,257,300 | 91 | 556,200 | 42 | 4,102,700 | 71 |
| May | 2,105,200 | 53 | 1,500,300 | 56 | 88,963,000 | 115 | 3,250,400 | 79 | 4,353,100 | 93 | 603,600 | 46 | 4,097,500 | 71 |
| June | 2,340,400 | 58 | 1,628,200 | 60 | 93,076,900 | 121 | 3,544,100 | 86 | 4,754,000 | 102 | 721,600 | 54 | 4,265,400 | 74 |
| July | 2,366,100 | 59 | 1,664,300 | 62 | 97,990,300 | 127 | 3,740,700 | 91 | 5,265,600 | 113 | 860,800 | 65 | 4,583,300 | 79 |
| August | 2,754,600 | 69 | 1,848,600 | 68 | 97,770,500 | 127 | 3,579,600 | 87 | 5,103,900 | 109 | 959,400 | 72 | 4,467,100 | 77 |
| September | 2,120,900 | 53 | 1,481,400 | 55 | 95,872,400 | 124 | 3,606,000 | 88 | 4,949,000 | 106 | 630,900 | 47 | 4,390,800 | 76 |
| October | 2,063,000 | 51 | 1,448,100 | 53 | 93,670,200 | 122 | 3,417,900 | 83 | 5,139,100 | 110 | 626,100 | 47 | 4,185,200 | 72 |
| November | 1,922,000 | 48 | 1,428,300 | 53 | 90,159,200 | 117 | 3,192,900 | 78 | 4,995,500 | 107 | 584,600 | 44 | 4,020,900 | 69 |
| December | 1,991,500 | 49 | 1,438,500 | 53 | 100,820,200 | 131 | 3,356,800 | 82 | 5,313,200 | 114 | 581,700 | 43 | 4,095,000 | 71 |
| For the Year | 2,166,900 | 54 | 1,523,500 | 56 | 94,830,500 | 123 | 3,439,000 | 84 | 4,867,200 | 104 | 659,900 | 50 | 4,202,300 | 72 |

TABLE No. 9. — Continued — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| City or Town | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Population | 63,170 | | 25,380 | | 18,760 | | 1,840 | | 75,910 | | 34,370 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| January | 3,357,600 | 53 | 1,376,000 | 54 | 934,400 | 50 | 115,000 | 63 | 4,896,400 | 65 | 2,033,600 | 59 |
| February | 3,562,100 | 57 | 1,360,900 | 54 | 894,700 | 48 | 115,200 | 63 | 4,717,400 | 62 | 1,910,000 | 55 |
| March | 3,493,000 | 55 | 1,364,000 | 54 | 903,800 | 48 | 120,900 | 66 | 4,677,500 | 62 | 1,950,500 | 57 |
| April | 3,441,400 | 55 | 1,357,200 | 54 | 922,000 | 49 | 125,300 | 68 | 4,530,700 | 60 | 1,874,100 | 54 |
| May | 3,356,500 | 53 | 1,368,700 | 54 | 981,300 | 52 | 131,100 | 71 | 4,609,000 | 61 | 1,968,900 | 57 |
| June | 3,400,000 | 54 | 1,355,000 | 53 | 1,002,600 | 54 | 250,900 | 136 | 4,976,800 | 66 | 2,129,600 | 62 |
| July | 3,431,700 | 54 | 1,425,000 | 56 | 987,800 | 53 | 354,100 | 192 | 5,172,400 | 68 | 2,440,300 | 71 |
| August | 3,581,400 | 57 | 1,510,400 | 59 | 1,125,900 | 60 | 397,600 | 216 | 5,412,500 | 71 | 2,616,200 | 76 |
| September | 3,371,000 | 53 | 1,375,200 | 54 | 1,004,200 | 53 | 278,200 | 151 | 5,100,500 | 67 | 2,233,900 | 65 |
| October | 3,405,600 | 54 | 1,374,600 | 54 | 1,024,700 | 54 | 192,100 | 104 | 5,042,300 | 66 | 2,038,200 | 59 |
| November | 3,371,300 | 53 | 1,388,200 | 55 | 954,600 | 51 | 155,600 | 84 | 4,936,400 | 65 | 1,942,100 | 57 |
| December | 3,430,900 | 54 | 1,451,200 | 57 | 973,100 | 52 | 148,100 | 80 | 4,950,900 | 65 | 1,930,900 | 56 |
| For the Year | 3,433,300 | 54 | 1,392,600 | 55 | 976,300 | 52 | 199,100 | 108 | 4,920,000 | 65 | 2,090,500 | 61 |

TABLE No. 9. — Concluded — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| City or Town | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Population | 102,130 | | 10,790 | | 10,780 | | 35,440 | | 16,770 | | 1,392,170 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| January | 9,838,800 | 92 | 628,700 | 58 | 691,600 | 64 | 2,231,700 | 63 | 1,228,800 | 73 | 143,494,700 | 103 |
| February | 9,851,900 | 96 | 776,300 | 72 | 712,400 | 66 | 2,228,600 | 63 | 1,206,000 | 72 | 140,382,900 | 101 |
| March | 9,485,900 | 93 | 701,600 | 65 | 702,500 | 65 | 2,235,400 | 63 | 1,204,000 | 72 | 136,420,500 | 98 |
| April | 9,088,600 | 89 | 615,900 | 57 | 708,300 | 66 | 2,170,800 | 61 | 1,159,600 | 69 | 131,531,600 | 94 |
| May | 8,793,600 | 86 | 582,300 | 54 | 768,900 | 71 | 2,208,500 | 62 | 1,261,400 | 75 | 130,903,300 | 94 |
| June | 8,898,100 | 87 | 627,300 | 58 | 858,800 | 80 | 2,380,100 | 67 | 1,417,100 | 85 | 137,626,900 | 99 |
| July | 9,842,500 | 96 | 692,000 | 64 | 936,500 | 87 | 2,392,200 | 68 | 1,518,400 | 91 | 145,664,000 | 105 |
| August | 9,662,500 | 95 | 689,500 | 64 | 1,118,400 | 104 | 2,608,600 | 74 | 1,582,200 | 94 | 146,788,900 | 105 |
| September | 8,991,100 | 88 | 645,400 | 60 | 878,000 | 81 | 2,515,600 | 71 | 1,300,600 | 78 | 140,745,100 | 101 |
| October | 8,904,400 | 87 | 649,300 | 60 | 793,200 | 74 | 2,451,500 | 69 | 1,231,200 | 73 | 137,656,700 | 99 |
| November | 8,806,200 | 86 | 642,500 | 59 | 909,000 | 84 | 2,351,600 | 66 | 1,133,000 | 68 | 132,893,900 | 95 |
| December | 9,862,700 | 97 | 650,000 | 60 | 928,200 | 86 | 2,467,500 | 70 | 1,143,100 | 68 | 145,533,500 | 105 |
| For the Year | 9,337,000 | 91 | 658,000 | 61 | 834,400 | 77 | 2,354,200 | 66 | 1,282,900 | 76 | 139,167,600 | 100 |

TABLE No. 10. — *Chemical Examinations of Water from the Wachusett Reservoir, Clinton, in 1940*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | Cold | Hot | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 30 . . | 3 | — | V. faintly vegetable | Faintly vegetable | 37 | 11 | .012 | .094 | 6.9 | – | 3.0 | 16 |
| Mar. 5 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 30 | 10 | .040 | .064 | 6.6 | – | 2.5 | 14 |
| May 27 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 30 | 13 | .012 | .108 | 6.7 | – | 2.6 | 13 |
| July 30 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 32 | 12 | .010 | .072 | 6.9 | – | 2.4 | 18 |
| Oct. 1 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 38 | 17 | .010 | .162 | 6.8 | – | 2.2 | 20 |
| Dec. 3 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 30 | 12 | .006 | .062 | 6.7 | – | 2.5 | 11 |
| Average . | 1.3 | ..... | ..... | ..... | 33 | 13 | .015 | .094 | 6.6 | ..... | 2.5 | 15 |

## Table No. 11. — *Chemical Examinations of Water from the Sudbury Reservoir in 1940*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | Cold | Hot | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 30 | 3 | — | V. faintly vegetable | Faintly vegetable | 34 | 13 | .006 | .098 | 6.6 | – | 2.6 | 16 |
| Mar. 5 | 1 | — | V. faintly vegetable | V. faintly vegetable | 39 | 14 | .020 | .096 | 6.6 | – | 2.6 | 11 |
| May 27 | 2 | — | V. faintly vegetable | Faintly vegetable | 55 | 17 | .032 | .116 | 6.9 | – | 3.2 | 21 |
| Aug. 6 | 2 | — | V. faintly vegetable | Faintly vegetable | 43 | 15 | .008 | .116 | 6.9 | – | 2.7 | 20 |
| Oct. 8 | 2 | — | V. faintly vegetable | V. faintly vegetable | 33 | 11 | .020 | .114 | 6.7 | – | 2.6 | 16 |
| Dec. 3 | 2 | — | V. faintly vegetable | V. faintly vegetable | 38 | 13 | .004 | .094 | 6.7 | – | 2.5 | 20 |
| Average | 2 | ..... | ..... | ..... | 40 | 14 | .015 | .106 | 6.7 | ..... | 2.7 | 17 |

## Table No. 12. — *Chemical Examinations of Water from Spot Pond, Stoneham, in 1940*

(Parts per 1,000,000)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. 29 | – | — | V. faintly vegetable | V. faintly vegetable | 43 | 11 | .028 | .150 | 6.7 | – | 4.0 | 16 |
| Mar. 4 | 2 | — | V. faintly vegetable | Faintly vegetable | 43 | 13 | .058 | .082 | 6.6 | – | 4.0 | 18 |
| May 29 | 2 | — | Faintly unpleasant | Distinctly unpleasant | 46 | 20 | .166 | .094 | 6.7 | – | 3.9 | 20 |
| Aug. 5 | 2 | — | V. faintly vegetable | Faintly vegetable | 40 | 13 | .144 | .120 | 6.8 | – | 4.0 | 18 |
| Sept. 30 | 1 | — | Faintly vegetable | Faintly vegetable | 31 | 10 | .152 | .106 | 6.6 | – | 3.9 | 16 |
| Dec. 4 | 2 | — | V. faintly vegetable | Faintly vegetable | 32 | 14 | .058 | .104 | 6.6 | – | 3.8 | 17 |
| Average | 1.5 | ..... | ..... | ..... | 39 | 14 | .101 | .109 | 6.7 | ..... | 3.9 | 18 |

TABLE No. 13. — *Chemical Examinations of Water from Lake Cochituate in 1940*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | Cold | Hot | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 31 . . | 3 | — | V. faintly vegetable | Faintly vegetable | 73 | 20 | .020 | .138 | 6.8 | – | 7.2 | 27 |
| Mar. 6 . . | 2 | — | V. faintly vegetable | Faintly vegetable | 68 | 19 | .056 | .200 | 6.7 | – | 6.6 | 27 |
| May 27 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 65 | 17 | .050 | .126 | 7.0 | – | 6.2 | 29 |
| July 31 . . | 1 | — | Faintly vegetable | Faintly vegetable | 67 | 18 | .010 | .112 | 7.2 | – | 7.2 | 31 |
| Dec. 5 . . | 2 | — | V. faintly vegetable | Distinctly vegetable | 63 | 21 | .032 | .166 | 6.9 | – | 6.6 | 27 |
| Average . | 1.8 | ..... | ..... | ..... | 67.2 | 19 | .034 | .148 | 6.9 | ..... | 6.8 | 28 |

TABLE No. 14. — *Chemical Examinations of Water from a tap at the State House, Boston, in 1940*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | Cold | Hot | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 4 . . | 2 | — | None | V. faintly vegetable | 38 | 13 | .152 | .108 | 6.7 | – | 4.0 | 17 |
| Mar. 5 . . | 1 | — | V. faintly vegetable | Faintly vegetable | 42 | 16 | .188 | .070 | 6.6 | – | 4.0 | 16 |
| May 29 . . | 2 | — | Faintly vegetable | Faintly vegetable | 41 | 13 | .154 | .096 | 6.7 | – | 4.0 | 20 |
| Aug. 2 . . | 2 | — | V. faintly vegetable | Faintly vegetable | 43 | 13 | .002 | .098 | 6.7 | – | 4.6 | 18 |
| Dec. 12 . . | 2 | — | Faintly vegetable | Faintly vegetable | 40 | 15 | .154 | .114 | 6.7 | – | 3.8 | 18 |
| Average . | 1.8 | ..... | ..... | ..... | 41 | 14 | .130 | .097 | 6.7 | ..... | 4.1 | 18 |

TABLE No. 15. — *Chemical Examinations of Water from a Faucet in Boston, 1898–1940*

(Parts per 1,000,000)

| Year | Color | Residue on Evaporation | | Ammonia | | | | Chlorine | Oxygen Consumed | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Albuminoid | | | | | |
| | Platinum Standard | Total | Loss on Ignition | Free | Total | Dissolved | Suspended | | | |
| 1898 | 40 | 41.9 | 16.0 | .008 | .152 | .136 | .016 | 2.9 | 4.4 | 14 |
| 1899 | 28 | 37.0 | 13.0 | .006 | .136 | .122 | .014 | 2.4 | 3.5 | 11 |
| 1900 | 29 | 38.0 | 12.0 | .012 | .157 | .139 | .018 | 2.5 | 3.8 | 13 |
| 1901 | 29 | 44.3 | 16.4 | .013 | .158 | .142 | .016 | 3.0 | 4.2 | 17 |
| 1902 | 30 | 39.3 | 15.6 | .016 | .139 | .119 | .020 | 2.9 | 4.0 | 17 |
| 1903 | 29 | 39.8 | 15.0 | .013 | .125 | .110 | .015 | 3.0 | 3.9 | 15 |
| 1904 | 23 | 39.3 | 15.9 | .023 | .139 | .121 | .018 | 3.4 | 3.7 | 15 |
| 1905 | 24 | 38.6 | 15.9 | .020 | .145 | .124 | .021 | 3.5 | 3.5 | 14 |
| 1906 | 24 | 38.6 | 13.9 | .018 | .159 | .134 | .025 | 3.4 | 3.6 | 13 |
| 1907 | 22 | 38.3 | 14.0 | .013 | .129 | .109 | .020 | 3.3 | 3.2 | 13 |
| 1908 | 19 | 35.0 | 13.5 | .011 | .115 | .092 | .024 | 3.3 | 2.6 | 12 |
| 1909 | 18 | 34.6 | 14.3 | .011 | .128 | .103 | .025 | 2.8 | 2.5 | 13 |
| 1910 | 14 | 30.5 | 12.4 | .013 | .118 | .102 | .016 | 2.8 | 2.2 | 11 |
| 1911 | 25 | 41.8 | 16.6 | .015 | .156 | .128 | .029 | 3.8 | 3.3 | 14 |
| 1912 | 17 | 38.6 | 12.3 | .018 | .154 | .119 | .034 | 3.6 | 2.9 | 17 |
| 1913 | 13 | 39.6 | 11.5 | .014 | .150 | .120 | .026 | 3.5 | 2.6 | 15 |
| 1914 | 14 | 41.2 | 11.9 | .014 | .138 | .116 | .022 | 3.9 | 2.5 | 14 |
| 1915 | 16 | 37.3 | 10.4 | .015 | .157 | .134 | .023 | 3.8 | 2.5 | 14 |
| 1916 | 18 | 45.3 | 18.5 | .013 | .133 | .107 | .026 | 3.6 | – | 14 |
| 1917 | 15 | 44.5 | 16.8 | .015 | .142 | .124 | .018 | 3.3 | – | 13 |
| 1918 | 18 | 38.9 | 14.5 | .019 | .154 | .128 | .026 | 2.9 | – | 14 |
| 1919 | 20 | 42.8 | 14.1 | .010 | .130 | .108 | .022 | 3.6 | – | 15 |
| 1920 | 17 | 42.3 | 13.5 | .012 | .112 | .097 | .014 | 3.3 | – | 15 |
| 1921 | 13 | 38.0 | 13.9 | .006 | .104 | .089 | .015 | 2.5 | – | 14 |
| 1922 | 16 | 39.8 | 15.5 | .011 | .097 | .080 | .017 | 3.0 | – | 18 |
| 1923 | 15 | 39.0 | 14.5 | .011 | .100 | .090 | .010 | 2.6 | – | 15 |
| 1924 | 12 | 41.0 | 16.0 | .011 | .109 | .084 | .025 | 2.8 | – | 15 |
| 1925 | 9 | 39.8 | 16.2 | .013 | .109 | .093 | .016 | 2.9 | – | 15 |
| 1926 | 10 | 41.8 | 16.8 | .015 | .115 | .092 | .023 | 3.2 | – | 15 |
| 1927 | 22 | 44.7 | 16.2 | .013 | .111 | .101 | .018 | 3.4 | – | 19 |
| 1928 | 27 | 44.3 | 17.2 | .011 | .124 | .106 | .018 | 3.7 | – | 15 |
| 1929 | 21 | 42.6 | 17.1 | .007 | .106 | .074 | .032 | 3.0 | – | 13 |
| 1930 | 16 | 40.7 | 13.4 | .012 | .071 | .055 | .016 | 3.4 | – | 13 |
| 1931 | 24 | 48.8 | 16.4 | .013 | .097 | .072 | .025 | 4.5 | – | 20 |
| 1932 | 19 | 43.5 | 16.0 | .007 | .102 | .075 | .027 | 3.9 | – | 16 |
| 1933 | 19 | 41.5 | 14.1 | .010 | .095 | .069 | .026 | 4.0 | – | 19 |
| 1934 | 19 | 40.3 | 13.8 | .013 | .083 | .062 | .021 | 3.8 | – | 19 |

| Year | Color | Residue on Evaporation | | Free Ammonia | Total Albumen Ammonia | Hydrogen-ion Concentration | Manganese | Chlorine | Alkalinity | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|
| | Platinum Standard | Total | Loss on Ignition | | | | | | | |
| 1935 | 17 | 42.9 | 15.6 | .027 | .095 | 6.7 | .025 | 4.0 | – | 17 |
| 1936 | 15 | 37.8 | 12.8 | .009 | .099 | 6.8 | .020 | 3.9 | – | 18 |
| 1937 | 19 | 41.0 | 13.8 | .041 | .093 | 6.6 | .020 | 4.0 | – | 18 |
| 1938 | 25 | 45.8 | 17.0 | .078 | .090 | – | .020 | 4.0 | 10.2 | 19 |
| 1939 | 21 | 41.0 | 14.0 | .149 | .107 | 6.7 | .040 | 4.1 | 10.8 | 17 |
| 1940 | 16 | 40.8 | 14.0 | .130 | .097 | 6.7 | – | 4.1 | 11.6 | 18 |

## Table No. 16. — *Number of Bacteria per Cubic Centimeter in Water at Various Places on the Metropolitan Water Works, 1898–1940*

(Averages of Weekly Determinations)

| Year | Chestnut Hill Reservoir | | | Southern Service Taps | |
|---|---|---|---|---|---|
| | *Sudbury Aqueduct Terminal Chamber* | *Cochituate Aqueduct* | *Effluent Gate House No. 2* | *Low Service 182 Boylston Street* | *High Service 20 Somerset Street* |
| 1898 | 207 | 145 | 111 | 96 | – |
| 1899 | 224 | 104 | 217 | 117 | 123 |
| 1900 | 248 | 113 | 256 | 188 | 181 |
| 1901 | 225 | 149 | 169 | 162 | 168 |
| 1902 | 203 | 168 | 121 | 164 | 246 |
| 1903 | 76 | 120 | 96 | 126 | 243 |
| 1904 | 347 | 172 | 220 | 176 | 355 |
| 1905 | 495 | 396 | 489 | 231 | 442 |
| 1906 | 231 | 145 | 246 | 154 | 261 |
| 1907 | 147 | 246 | 118 | 130 | 176 |
| 1908 | 162 | 138 | 137 | 136 | 148 |
| 1909 | 198 | 229 | 119 | 150 | 195 |
| 1910 | 216 | – | 180 | 178 | 213 |
| 1911 | 205 | 204 | 151 | 175 | 197 |
| 1912 | 429 | 450 | 227 | 249 | 259 |
| 1913 | 123 | 243 | 157 | 119 | 140 |
| 1914 | 288 | – | 252 | 174 | 220 |
| 1915 | 163 | – | 128 | 117 | 134 |
| 1916 | 128 | – | 85 | 102 | 105 |
| 1917 | 178 | 112 | 119 | 119 | 141 |
| 1918 | 1,163 | 168 | 705 | 317 | 544 |
| 1919 | 92 | 85 | 100 | 70 | 84 |
| 1920 | 148 | 86 | 108 | 113 | 112 |
| 1921 | 103 | – | 83 | 92 | 92 |
| 1922 | 163 | – | 153 | 160 | 172 |
| 1923 | 229 | – | 178 | 217 | 230 |
| 1924 | 137 | – | 96 | 150 | 160 |
| 1925 | 144 | 251 | 120 | 155 | 174 |
| 1926 | 167 | – | 118 | 130 | 137 |
| 1927 | 119 | 185 | 70 | 81 | 101 |
| 1928 | 144 | 32 | 86 | 106 | 106 |
| 1929 | 128 | – | 84 | 130 | 144 |
| 1930 | 107 | – | 66 | 105 | 123 |
| 1931 | 82* | 4* | 43 | 80 | 101 |
| 1932 | 121* | – | 63 | 123 | 147 |
| 1933 | 20* | – | 15 | 40 | 45 |
| 1934 | 10* | – | 26 | 42 | 31 |
| 1935 | 4* | – | 32 | 35 | 18 |
| 1936 | 21* | – | 56 | 51 | 59 |
| 1937 | 12* | – | 50 | 90 | 21 |
| 1938 | 3* | – | 49 | 13 | 14 |
| 1939 | 4* | – | 111 | 6 | 22 |
| 1940 | 4* | – | 180 | 3* | 8* |

*After the water was sterilized with chlorine.

## Table No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1940*

(Platinum Standard)

| Month | Wachusett [1] Reservoir | | | | | | Wachusett Aqueduct Influent | Sudbury [1] Reservoir | | | Framingham Reservoir No. 3 | Lake [1] Cochituate | | | Chestnut Hill Reservoir | | | Spot [1] Pond | Fells Reservoir | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-Depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| January | 31 | 22 | 28 | 10 | 11 | 12 | 12 | 13 | 13 | 13 | 15 | 19 | 19 | 19 | 15 | – | 14 | – | 12 | 14 | 15 | 15 | 15 |
| February | 29 | 22 | 26 | 10 | 10 | 11 | 12 | 12 | 12 | 14 | 14 | 19 | 19 | 20 | 14 | – | 13 | – | 11 | 13 | 13 | 12 | 16 |
| March | 33 | 26 | 29 | 10 | 11 | – | 16 | 14 | 14 | 14 | 15 | 22 | 20 | 20 | 14 | – | 12 | – | 11 | 13 | 13 | 13 | 12 |
| April | 38 | 33 | 34 | 16 | 15 | 16 | 30 | 21 | 20 | 20 | – | 27 | 27 | 27 | 19 | – | 16 | – | 12 | 19 | 19 | 19 | 16 |
| May | 48 | 45 | 41 | 16 | 16 | 16 | 27 | 25 | 25 | 26 | 26 | 25 | 25 | 26 | 23 | – | 17 | – | 16 | 23 | 23 | 23 | 19 |
| June | 46 | 37 | 17 | – | 16 | – | 16 | 25 | – | 25 | 25 | 24 | 21 | 28 | 23 | – | 19 | – | 22 | 22 | 22 | 22 | 21 |
| July | 49 | 40 | 23 | 14 | 15 | 15 | 29 | 20 | 21 | 20 | 23 | 19 | 19 | 38 | 21 | – | 17 | – | 18 | 20 | 20 | 18 | 17 |
| August | 28 | 25 | 15 | 12 | 13 | 14 | 14 | 16 | 15 | 17 | 19 | 14 | 16 | 50 | 21 | – | 17 | – | 15 | 17 | 15 | 15 | 15 |
| September | 22 | 15 | 13 | 12 | 12 | 12 | 13 | 13 | 13 | 14 | 14 | 12 | 16 | 66 | 14 | – | 13 | – | 9 | 13 | 13 | 12 | 10 |
| October | 26 | 27 | 12 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 57 | 12 | - | 12 | – | 11 | 12 | 12 | 11 | 12 |
| November | 38 | 30 | 12 | 10 | 10 | 10 | 13 | 11 | 11 | 12 | 11 | 16 | 15 | 30 | 11 | – | 11 | – | 12 | 11 | 11 | 10 | 10 |
| December | 38 | 26 | 30 | – | 10 | – | 14 | 16 | 15 | 15 | – | 15 | – | – | 13 | – | 12 | – | 13 | 15 | 13 | 15 | 14 |
| Mean | 36 | 29 | 23 | 12 | 13 | 13 | 17 | 17 | 16 | 17 | 17 | 19 | 19 | 36 | 17 | – | 14 | – | 14 | 16 | 16 | 15 | 15 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations; all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1940*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| Month | Wachusett[1] Reservoir Depth at Place of Observation Near Dam 107 Feet | | | Wachusett Aqueduct Influent | Sudbury[1] Reservoir Depth at Place of Observation Near Dam 54.5 Feet | | | Framingham[1] Reservoir No. 3 Depth at Place of Observation Near Dam 20.5 Feet | | | Lake[1] Cochituate Depth at Place of Observation Near Gate House 62.0 Feet | | | Chestnut Hill Reservoir | Spot Pond[1] Depth at Place at Onservation Near East Gate House 28.0 Feet | | | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-Depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| January . | 33.9 | 36.4 | 37.7 | 33.9 | 33.3 | 34.5 | 34.8 | 33.3 | 33.5 | 37.0 | 33.5 | 34.2 | 35.4 | 35.8 | 33.9 | – | 34.4 | 37.3 | 38.0 | 40.2 | 40.8 |
| February | 33.8 | 38.4 | 39.0 | 33.9 | 34.1 | 35.0 | 35.5 | 34.0 | 37.0 | 38.3 | 35.2 | 36.1 | 36.7 | 37.8 | 36.0 | – | 36.8 | 37.9 | 39.1 | 38.0 | 39.7 |
| March . | 40.2 | 39.0 | 36.1 | 33.4 | 35.0 | 36.0 | 37.0 | 35.8 | 36.7 | 38.3 | 35.8 | 36.5 | 36.9 | 37.7 | 37.1 | – | 37.8 | 38.7 | 39.5 | 39.8 | 40.8 |
| April . | 43.9 | 38.5 | 42.4 | 38.3 | 40.7 | 40.0 | 40.0 | 42.2 | – | – | 42.8 | 44.5 | 43.8 | 43.4 | 41.0 | – | 41.2 | 43.5 | 43.9 | 43.5 | 42.4 |
| May . | 51.6 | 59.2 | 49.0 | 49.3 | 55.9 | 58.5 | 53.5 | 58.0 | 57.5 | 56.7 | 58.0 | 48.4 | 45.7 | 59.4 | 54.4 | – | 52.8 | 54.5 | 55.9 | 54.4 | 51.6 |
| June . | 62.5 | 58.5 | 52.7 | 61.9 | 68.3 | 62.0 | 60.5 | 68.3 | 68.0 | 63.9 | 68.8 | 50.4 | 47.4 | 66.4 | 65.1 | – | 59.4 | 63.6 | 65.9 | 63.1 | 56.2 |
| July . | 74.8 | 65.7 | 56.5 | 61.8 | 74.2 | 67.8 | 65.8 | 74.7 | 72.8 | 70.3 | 72.6 | 54.6 | 48.8 | 72.5 | 71.7 | – | 64.5 | 69.1 | 71.3 | 67.9 | 61.9 |
| August . | 75.2 | 69.5 | 58.1 | 61.8 | 74.3 | 70.3 | 71.5 | 74.1 | 74.0 | 72.6 | 74.2 | 57.8 | 51.0 | 74.9 | 73.8 | – | 66.8 | 73.6 | 74.5 | 72.9 | 65.8 |
| September | 71.3 | 60.9 | 57.0 | 58.8 | 68.1 | 66.0 | 65.0 | 67.9 | 68.0 | 67.4 | 68.9 | 55.3 | 49.0 | 68.6 | 70.5 | – | 67.4 | 68.7 | 69.6 | 69.3 | 64.5 |
| October . | 56.0 | 57.3 | 52.5 | 55.0 | 58.1 | 59.0 | 56.0 | 56.8 | 55.3 | 55.3 | 56.7 | 54.5 | 48.2 | 57.1 | – | – | 58.4 | 60.0 | 60.4 | 61.6 | 60.0 |
| November | 48.2 | 48.8 | 47.0 | 47.1 | 46.0 | 52.0 | 44.3 | 44.5 | 44.0 | 44.5 | 48.2 | 48.4 | 47.8 | 46.3 | – | – | 47.1 | 49.7 | 49.5 | 52.2 | 51.9 |
| December | – | 39.9 | – | 37.3 | 37.9 | 38.8 | 38.8 | 36.4 | – | – | 38.9 | – | – | 38.2 | – | – | 39.2 | 41.6 | 41.5 | 43.0 | 44.8 |
| Mean . | 53.8 | 51.0 | 48.0 | 47.7 | 52.2 | 51.7 | 50.2 | 52.2 | 54.7 | 50.6 | 52.8 | 47.3 | 44.6 | 53.2 | 53.7 | ..... | 50.5 | 53.2 | 54.1 | 53.8 | 51.7 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations; all others are averages of weekly determinations.

## TABLE NO. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves set in Same, December 31, 1940*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | Total |
| Total length owned and operated Dec. 31, 1939 (feet) . . | 130,179 | 17,634 | 13,486 | 244,616 | 12,218 | 6,887 | 7,274 | 75,403 | 78,497 | 101,621 | 153,486 | 80,177 | 26 | 30,561 | 724 | 1,964 | 1,210 | 58 | 956,021 |
| Gate Valves in same . | 22 | 2 | 5 | 66 | 3 | 3 | – | 82 | 54 | 72 | 109 | 156 | 1 | 174 | 22 | 33 | 28 | 2 | 833 |
| Air Valves in same . | 190 | 9 | 12 | 177 | 12 | 5 | 6 | 71 | 46 | 61 | 101 | 43 | - | 14 | 1 | – | – | – | 748 |
| Length laid or relaid during 1940 (feet) . | – | – | – | 6,845 | – | – | – | – | – | 17 | 104 | 60 | – | 87 | – | 7 | – | – | 7,120 |
| Gate Valves in same . | – | – | – | 4 | – | – | – | – | – | 1 | – | 2 | – | 3 | – | 1 | – | – | 11 |
| Air Valves in same . | – | – | – | 14 | – | – | – | – | – | 1 | 1 | – | – | – | – | – | – | – | 16 |
| Length abandoned during 1940 (feet) . | – | – | – | 315 | – | – | – | – | – | – | 104 | 60 | – | 9 | – | – | – | – | 488 |
| Gate Valves in same . | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Air Valves in same . | – | – | – | 4 | – | – | – | – | – | 1 | 1 | – | – | – | – | – | – | – | 6 |
| Length owned and operated Dec. 31, 1940 (feet) . . . | 130,179 [1] | 17,634 [2] | 13,486 [2] | 251,146 [3] | 12,218 [4] | 6,887 | 7,274 [2] | 75,403 [5] | 78,497 [6] | 101,638 [7] | 153,486 [8] | 80,177 | 26 | 30,639 | 724 | 1,971 | 1,210 | 58 | 962,653 [9] |
| Gate Valves in same . | 22 | 2 | 5 | 70 | 3 | 3 | – | 82 | 53 | 73 | 109 | 158 | 1 | 177 | 22 | 34 | 28 | 2 | 844 |
| Air Valves in same . | 190 | 9 | 12 | 187 | 12 | 5 | 6 | 71 | 46 | 61 | 101 | 43 | – | 14 | 1 | – | – | – | 758 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.

[2] Steel pipe.

[3] Includes 35,387 feet of steel pipe.

[4] Includes 2,338 feet of steel pipe.

[5] Includes 11,491 feet of steel pipe.

[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,661 feet of steel pipe.

[7] Includes 55 feet of steel pipe.

[8] Includes 1,154 feet of steel pipe.

[9] 182.32 miles.

TABLE NO. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1940*

(All pipes are of cast iron)

| | DIAMETER OF PIPES IN INCHES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *24* | *20* | *16* | *12* | *10* | *8* | *6* | *4* | *Total* |
| Total length in use December 31, 1939 (feet) | 352 | 292 | 4,270 | 8,326 | 233 | 1,315 | 4,862 | 1,946 | 21,596 |
| Valves in same | – | – | 59 | 150 | 2 | 20 | 120 | 56 | 407 |
| Length laid or relaid in 1940 (feet) | – | – | – | 69 | – | – | – | – | 69 |
| Valves in same | – | – | – | 1 | – | – | – | – | 1 |
| Length abandoned in 1940 (feet) | – | – | – | 81 | – | 8 | – | – | 89 |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Total length in use December 31, 1940 (feet) | 352 | 292 | 4,270 | 8,314 | 233 | 1,307 | 4,862 | 1,946 | 21,576 [1] |
| Valves in same | – | – | 59 | 151 | 2 | 20 | 120 | 56 | 408 |

[1] 4.09 miles.

TABLE No. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1940*

| | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *18* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | *Feet* | *Miles* |
| Met. Water Wks. | 130,179 | 17,634 | 13,486 | 251,146 | 12,218 | 6,887 | 7,274 | 75,403 | 78,497 | 101,638 | 153,486 | – | 80,177 | 26 | 30,639 | 724 | 1,971 | 1,210 | 58 | 962,653 | 182.32 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 50,798 | 42,862 | 145,069 | 256,472 | 380 | 497,969 | 94.31 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,120 | 53,546 | 100,708 | 219,988 | 269 | 391,631 | 74.17 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,455 | 108,000 | – | 365,647 | 285 | 1,833,172 | 451,149 | 1,186,547 | 977,198 | 63,921 | 5,262,840 | 996.75 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 96,177 | 134,913 | 278,432 | 250 | 653,690 | 123.81 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 38,600 | 158,015 | – | 260,725 | 49.38 |
| Everett | – | – | – | – | – | – | – | – | – | 2,484 | 2,900 | – | 25,536 | 10,192 | 10,159 | 47,700 | 39,320 | 165,000 | 11,540 | 314,831 | 59.63 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,130 | 75,088 | 201,930 | 20,188 | 368,659 | 69.82 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,759 | 11,142 | 101,565 | 38,493 | 130,153 | 239,368 | 41,155 | 574,635 | 108.83 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,234 | 51,966 | 155,102 | 315,920 | 779 | 591,047 | 111.94 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 33,997 | 31,853 | 214,320 | 46,187 | 368,068 | 69.71 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 30,152 | 115,082 | 240,208 | 5,856 | 490,992 | 92.99 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,243 | 39,186 | 59,555 | 141,528 | 26.81 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 243,500 | 794,979 | 53,982 | 1,276,265 | 241.72 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 85,097 | 103,981 | 268,293 | 469,987 | 62,917 | 1,041,465 | 197.25 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 8,253 | 40,207 | 40,001 | 109,412 | 147,375 | 8,131 | 363,849 | 68.91 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 156,233 | 98,445 | 112,719 | 181,981 | 15,386 | 588,744 | 111.51 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,985 | 13,539 | 36,012 | 113,458 | 17,688 | 189,682 | 35.92 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 13,726 | 21,800 | 8,208 | 125,184 | 4,119 | 177,899 | 33.69 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,980 | 16,983 | 51,536 | 97,105 | 179,387 | 3,178 | 357,160 | 67.64 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 5,302 | 24,198 | 95,136 | 52,255 | 9,167 | 195,536 | 37.03 |
| Total feet | 130,179 | 17,634 | 13,486 | 306,741 | 28,409 | 16,486 | 7,274 | 105,641 | 154,340 | 203,584 | 359,531 | 367 | 628,060 | 84,550 | 2,789,887 | 1,287,106 | 3,140,034 | 5,371,853 | 424,706 | 15,069,868 | – |
| Total miles | 24.66 | 3.34 | 2.55 | 58.09 | 5.38 | 3.12 | 1.38 | 20.01 | 29.23 | 38.56 | 68.09 | 0.07 | 118.95 | 16.01 | 528.39 | 243.77 | 594.70 | 1,017.40 | 80.44 | – | 2,854.14 |

TABLE NO. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1940*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| Arlington | 8,228 | 8,198 | 99.64 | 34 | 979 |
| Belmont | 5,438 | 5,438 | 100.00 | 14 | 562 |
| Boston | 101,493 | 101,493 | 100.00 | 3,115 | 12,238 |
| Chelsea | 5,741 | 5,741 | 100.00 | 160 | 464 |
| Everett | 7,348 | 7,348 | 100.00 | 55 | 602 |
| Lexington | 2,864 | 2,864 | 100.00 | 18 | 565 |
| Malden | 9,811 | 9,802 | 99.94 | 75 | 773 |
| Medford | 10,908 | 10,902 | 99.94 | 38 | 1,140 |
| Melrose | 6,347 | 6,347 | 100.00 | 26 | 495 |
| Milton | 4,977 | 4,977 | 100.00 | 8 | 742 |
| Nahant | 934 | 934 | 100.00 | 2 | 144 |
| Quincy | 16,608 | 16,608 | 100.00 | 65 | 1,862 |
| Revere | 6,580 | 6,577 | 99.95 | 14 | 561 |
| Somerville | 13,882 | 13,797 | 99.39 | 134 | 1,433 |
| Stoneham | 2,545 | 2,544 | 99.96 | 6 | 204 |
| Swampscott | 2,899 | 2,899 | 100.00 | 8 | 304 |
| Watertown | 6,174 | 6,174 | 100.00 | 44 | 752 |
| Winthrop | 3,948 | 3,948 | 100.00 | 6 | 392 |
| District Supplied | 216,725 | 216,591 | 99.94 | 3,822 | 24,212 |
| Brookline | 8,542 | 8,542 | 100.00 | 65 | 1,285 |
| Newton | 16,621 | 16,621 | 100.00 | 76 | 1,843 |
| Total District | 241,888 | 241,754 | 99.94 | 3,963 | 27,340 |

TABLE NO. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1940*

| 1940 MONTH | LOW SERVICE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WATERTOWN, PLEASANT STREET AT WALTHAM LINE | | BELMONT, WATER WORKS SHOP, WAVERLEY STREET | | BOSTON, BOWDOIN SQUARE ENGINE HOUSE | | ALLSTON, ENGINE HOUSE, HARVARD STREET | | MEDFORD, NEAR MYSTIC RESERVOIR | | SOMERVILLE, PUBLIC LIBRARY, HIGHLAND AVENUE | | MALDEN, WATER WORKS SHOP, GREEN STREET | | CHELSEA, FIRE STATION, PARK STREET | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| January | 193 | 186 | 190 | 183 | 146 | 134 | 177 | 168 | 165 | 160 | 162 | 153 | 164 | 156 | 157 | 152 |
| February | 188 | 184 | 186 | 175 | 150 | 136 | 186 | 175 | 180 | 161 | * | – | 167 | 157 | 166 | 157 |
| March | 191 | 184 | 188 | 174 | 149 | 136 | 182 | 168 | 179 | 162 | * | – | 167 | 158 | 166 | 154 |
| April | 193 | 188 | 192 | 186 | 150 | 136 | 175 | 169 | 171 | 161 | 169 | 157 | 170 | 155 | 164 | 152 |
| May | 193 | 186 | 192 | 181 | 150 | 137 | 186 | 168 | 186 | 160 | 182 | 156 | 181 | 155 | 178 | 145 |
| June | 193 | 185 | 192 | 178 | 150 | 136 | 184 | 168 | 186 | 164 | 183 | 153 | 186 | 149 | 178 | 144 |
| July | 193 | 184 | 188 | 176 | 149 | 136 | 182 | 166 | 183 | 159 | 178 | 148 | 179 | 141 | 173 | 136 |
| August | 191 | 184 | 185 | 176 | 150 | 137 | 178 | 166 | 180 | 158 | 179 | 146 | 174 | 133 | 168 | 132 |
| September | 193 | 185 | 185 | 176 | 154 | 141 | 179 | 168 | 177 | 164 | 176 | 156 | 174 | 153 | 168 | 147 |
| October | 195 | 186 | 194 | 178 | 152 | 141 | 179 | 170 | 182 | 164 | 173 | 155 | 174 | 151 | 167 | 144 |
| November | 195 | 185 | 192 | 181 | 152 | 138 | 184 | 170 | 174 | 161 | 173 | 156 | 174 | 151 | 167 | 145 |
| December | 195 | 186 | 190 | 186 | 150 | 138 | 179 | 170 | 172 | 164 | 169 | 153 | 170 | 144 | 165 | 138 |
| Averages | 193 | 185 | 190 | 179 | 150 | 137 | 181 | 169 | 178 | 162 | 174 | 153 | 173 | 150 | 168 | 146 |

*Gage out of commission.

TABLE No. 23. — Concluded — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1940 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOSTON, BOWDOIN SQUARE ENGINE HOUSE | | MILTON, ADAMS STREET AT CANTON AVENUE | | QUINCY, FORBES HILL TOWER | | QUINCY, WATER WORKS SHOP | | SOMERVILLE, BROADWAY AT CEDAR ST. | | REVERE, WATER WORKS SHOP, BROADWAY | | LYNN, ENGINE HOUSE, UNION SQUARE | | WINTHROP, TOWN HALL, HERMAN STREET | | BELMONT, COMMON ST. AT WASHINGTON STREET | | LEXINGTON, MASSACHUSETTS AVE. AT ARLINGTON LINE | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| January | 240 | 224 | 246 | 227 | 243 | 225 | 238 | 215 | 260 | 226 | 262 | 250 | 261 | 250 | 197 | 189 | 319 | 308 | 434 | 422 |
| February | 241 | 219 | 246 | 227 | 244 | 225 | 238 | 215 | 260 | 235 | 263 | 239 | 261 | 238 | 197 | 188 | 319 | 308 | 434 | 420 |
| March | 240 | 224 | 248 | 227 | 245 | 225 | 238 | 215 | 254 | 184 | 262 | 252 | 261 | 250 | 197 | 189 | 319 | 308 | 432 | 422 |
| April | 242 | 224 | 247 | 227 | 245 | 225 | 239 | 215 | 260 | 184 | 263 | 244 | 263 | 243 | 197 | 188 | 319 | 308 | 432 | 418 |
| May | 242 | 221 | 248 | 227 | 245 | 224 | 238 | 212 | 263 | 210 | 262 | 250 | 262 | 236 | 200 | 178 | 320 | 308 | 459* | 414 |
| June | 242 | 218 | 248 | 225 | 244 | 220 | 238 | 205 | 263 | 234 | 262 | 245 | 260 | 228 | 196 | 175 | 319 | 308 | 450* | 411 |
| July | 241 | 208 | 246 | 225 | 244 | 215 | 237 | 201 | 263 | 230 | 261 | 239 | 261 | 226 | 196 | 170 | 319 | 308 | 450* | 381 |
| August | 239 | 201 | 244 | 221 | 243 | 214 | 233 | 200 | 263 | 226 | 261 | 236 | 261 | 224 | 198 | 170 | 317 | 308 | 426 | 408 |
| September | 247 | 217 | 246 | 227 | 245 | 221 | 238 | 207 | 263 | 225 | 262 | 241 | 259 | 233 | 199 | 182 | 320 | 308 | 426 | 413 |
| October | 242 | 219 | 247 | 226 | 245 | 215 | 237 | 207 | 256 | 225 | 255 | 241 | 253 | 238 | 198 | 184 | 320 | 310 | 423 | 411 |
| November | 242 | 224 | 248 | 230 | 244 | 224 | 238 | 213 | 259 | 225 | 262 | 245 | 261 | 243 | 198 | 182 | 320 | 308 | 430 | 413 |
| December | 241 | 219 | 246 | 225 | 243 | 214 | 237 | 214 | 263 | 228 | 262 | 248 | 261 | 243 | 198 | 182 | 320 | 308 | 429 | 421 |
| Averages | 241 | 218 | 247 | 226 | 244 | 221 | 237 | 210 | 261 | 219 | 261 | 244 | 260 | 238 | 198 | 181 | 319 | 308 | 435 | 413 |

*Direct pressure.

# APPENDIX No. 3

Information relating to areas, populations, local sewer connections and other data for the Metropolitan sewerage districts appears in the following table:

*North Metropolitan Sewerage District*

| *Area (Square Miles)* | *Estimated Total Population* | *Miles of Local Sewer Connected* | *Estimated Population Contributing Sewage* | *Ratio of Contributing Population to Total Population Per Cent.* | Connections made with Metropolitan Sewers | |
|---|---|---|---|---|---|---|
| | | | | | *Public* | *Special* |
| 101.64 | 736,830 | 1,076.21 | 678,840 | 92.13 | 405 | 775 |

*South Metropolitan Sewerage District*

| | | | | | | |
|---|---|---|---|---|---|---|
| 208.52 | 718,970 | 1,154.25 | 539,800 | 75.08 | 233 | 99 |

*Both Metropolitan Sewerage Districts*

| | | | | | | |
|---|---|---|---|---|---|---|
| 310.16 | 1,455,800 | 2,230.46 | 1,218.640 | 83.71 | 638 | 874 |

Of the estimated gross population of 1,455,800 on December 31, 1940, 1,218,640 representing 83.71 per cent were on that date contributing sewage to the Metropolitan sewers, through a total length of 2,230.46 miles of local sewers owned by the individual cities and towns of the districts.

These sewers are connected with the Metropolitan Systems by 638 public and 874 special connections. During the current year there has been an increase of 37.10 miles of local sewers connected with the Metropolitan Systems, and 4 public and 5 special connections have been added.

## North Metropolitan Sewerage System

### *Location, Length and Sizes of Sewers, with Public and Special Connections*

| City or Town | Size of Sewers | Length in Miles | Public Connections, December 31, 1940 | Special Connections: Character or Location of Connections added in 1940 | Special Connections: Number in Operation |
|---|---|---|---|---|---|
| Boston: | | | | | |
| Deer Island | 4′0″ to 9′0″ | 1.653 | 4 | – – – – | 1 |
| East Boston | 9′0″ to 1′0″ | 5.567 | 25 | – – – – | 3 |
| Charlestown | 6′7″ x 7′5″ to 1′0″ | 3.292 | 15 | – – – – | 12 |
| Winthrop | 9′0″ | 2.864 | 14 | – – – – | 3 |
| Chelsea | 11′3″ x 11′3″ to 15″ | 6.784 | 14 | – – – – | 9 |
| Everett | 11′3″ x 11′3″ to 4′8″ x 5′1″ | 4.471 | 10 | – – – – | 11 |
| Lexington [1] | 1′3″ to 2′3″ | .002 | 2 | – – – – | – |
| Malden | 4′6″ x 4′10″ to 1′0″ | 5.844 [2] | 40 | – – – – | 254 [3] |
| | | | | Friend Bros. Storage Bldg. | 1 |
| Melrose | 4′6″ x 4′10″ to 10″ | 6.099 [4] | 43 | – – – – | 137 [5] |
| Cambridge | 5′2″ x 5′9″ to 1′3″ | 7.899 | 60 | – – – – | 13 |
| | | | | B. & B. Chemical Co. | 1 |
| Somerville | 6′5″ x 7′2″ to 10″ | 3.577 | 16 | – – – – | 9 |
| Medford | 9′3″ x 9′3″ to 10″ | 12.704 | 29 | – – – – | 21 |
| Winchester | 5′6″ x 5′9″ to 15″ | 13.496 | 40 | – – – – | 36 |
| Stoneham | 3′0″ to 10″ | 4.026 | 12 | – – – – | – |
| Woburn | 4′2″ x 4′5″ to 15″ | 1.783 | 4 | – – – – | 6 |
| Arlington | 3′0″ x 3′6″ to 10″ | 6.723 [6] | 67 | – – – – | 256 [7] |
| | | | | Dwelling House | 1 |
| Belmont | 1′3″ to 2′6″ | 0.008 | 5 | – – – – | – |
| Wakefield | 3′0″ to 2′0″ x 2′3″ | 0.703 | 1 | – – – – | 1 |
| Revere | 4′0″ to 15″ | 0.136 | 3 | – – – – | – |
| Reading | 1′4″ to 3′0″ | 0.055 | 1 | – – – – | – |
| | | 87.686 [8] | 405 | | 775 |

[1] The Metropolitan Sewers extend but a few feet into the town of Lexington.

[2] Includes 1.84 miles of sewer purchased from the city of Malden.

[3] Mostly buildings connected with sewers formerly belonging to city of Malden but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 215 of the Acts of 1898 and by the Metropolitan Water and Sewerage Board in accordance with Chapter 512 of the Acts of 1911 and made parts of the North Metropolitan Sewerage System.

[4] Includes 0.736 of a mile of sewer purchased from the city of Melrose.

[5] Mostly buildings connected with a sewer formerly belonging to the city of Melrose but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 414 of the Acts of 1896 and with a sewer extension built in accordance with Chapter 436 of the Acts of 1897 by the Metropolitan Sewerage Commission as an outlet for part of the town of Stoneham and made parts of the North Metropolitan Sewerage System.

[6] Includes 2.631 miles of sewer purchased from the town of Arlington.

[7] Mostly buildings connected with a sewer formerly belonging to the town of Arlington but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 520 of the Acts of 1897 and made a part of the North Metropolitan Sewerage System.

[8] Includes 2.787 miles of Old Mystic Valley Sewer in Medford and Winchester, running parallel with the Metropolitan Sewer.

## South Metropolitan Sewerage System

*Location, Length and Sizes of Sewers, with Public and Special Connections*

| City or Town | Size of Sewers | Length in Miles | Public Connections, December 31, 1940 | Special Connections: Character or Location of Connections added in 1940 | Special Connections: Number in Operation |
|---|---|---|---|---|---|
| Boston: | | | | | |
| Back Bay | 6′6″ to 3′9″ | 1.500[1] | 17 | – – – – | 7 |
| Brighton | 7′0″ to 12″ | 6.405[2] | 16 | – – – – | 7 |
| Dorchester | 3′ x 4′ to 2′6″ x 2′7″ | 2.870[3] | 14 | – – – – | 9 |
| Hyde Park | 10″7′ x 11′7″ to 30″ pipe | 4.543 | 20 | – – – – | 5 |
| Roxbury | 6′6″ x 7′ to 4′0″ | 1.430 | – | – – – – | – |
| WestRoxbury | 9′3″ x 10′2″ to 12″ | 7.643 | 28 | – – – – | 15 |
| Brookline | 6′6″ x 7′0″ to 8″ | 2.540[4] | 14 | – – – – | 2 |
| Dedham | 4′ x 4′1″ to 2′9″ x 3′ | 5.012 | 11 | – – – – | 3 |
| Hull[5] | 60″ Pipe[6] | 0.750 | – | – – – – | – |
| Milton | 11′ x 12′ to 8″ | 7.127 | 42 | – – – – | 4 |
| Newton | 5′3″ x 5′6″ to 1′3″ | 2.912 | 15 | – – – – | 17 |
| | | | | Building . . . | 1 |
| Quincy | 11′3″ x 12′6″ to 16″ pipe | 8.738 | 33 | – – – – | 2 |
| Waltham | 3′6″ x 4′0″ | 0.001 | 1 | – – – – | – |
| Watertown | 4′2″ x 4′9″ to 12″ | 0.750[6] | 8 | – – – – | 6 |
| Needham | 2′0″ x 2′3″ to 2′3″ x 2′6″ | 4.921 | 1 | – – – – | 9 |
| Wellesley[7] | 2′0″ x 2′3″ | – | 1 | – – – – | – |
| Canton | 4′6″ x 5′0″ to 20″ | 7.243 | 4 | – – – – | 10 |
| | | | | House . . . | 1 |
| Norwood | 4′0″ x 4′3″ to 30″ pipe | 2.844 | 5 | – – – – | 1 |
| Stoughton[7] | – – – – | – | 1 | – – – – | – |
| Walpole[7] | – – – – | – | 1 | – – – – | – |
| Braintree | 30″ pipe | 0.071 | 1 | – – – – | – |
| Weymouth | 4′9″ x 5′0″ to 30″ pipe | 1.346 | – | – – – – | – |
| | | 68.646 | 233 | | 99 |

[1] Includes 0.355 of a mile of sewer purchased from the city of Boston.
[2] Includes 0.446 of a mile of pipe and concrete sewers built for the use of the city of Boston; also 0.026 of a mile of sewer purchased from the town of Watertown.
[3] Includes 1.24 miles of sewer purchased from the city of Boston.
[4] Includes 0.158 of a mile of pipe sewer built for the use of the town of Brookline.
[5] Hull is not a part of the Metropolitan Sewerage District.
[6] Includes 0.025 of a mile of sewer purchased from the town of Watertown.
[7] The Metropolitan Sewer extends but a few feet into the towns of Wellesley, Walpole, and Stoughton.

## North Metropolitan Sewerage System

*Table showing Cities and Towns delivering Sewage to this System; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas; Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations.*

(Populations estimated as of December 31, 1940)

| Cities and Towns | *Miles of Local Sewers Connected* | *Separate or Combined* | *Number of Connections with Local Sewers* | *Estimated Number of Persons Served by Each House Connection* [1] | *Estimated Population Now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area Now Contributing Sewage* | *Area Ultimately to Contribute Sewage* | *Ratio of Contributing Population to Present Total Population* | *Ratio of Contributing Area to Ultimate Area* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sq. Miles | Sq. Miles | Per Cent. | Per Cent. |
| Boston (Deer Island) | 0.70 | Separate | – | – | 860 [2] | 860 [2] | – | – | – | – |
| Winthrop | 34.07 | Separate | 4,059 | 4.09 | 16,600 | 16,660 | 1.44 | 1.61 | 99.64 | 89.44 |
| Boston (East Boston) | 36.03 | Separate and combined | 5,577 | 9.96 | 55,550 | 58,740 | 1.27 | 2.18 | 94.57 | 58.26 |
| Chelsea | 37.80 | Separate and combined | 4,592 | 8.79 | 40,360 | 40,710 | 1.33 | 2.07 | 99.14 | 64.25 |
| Everett | 53.59 | Separate and combined | 7,284 | 6.37 | 46,400 | 46,660 | 2.15 | 2.92 | 99.44 | 73.63 |
| Malden | 84.65 | Separate | 9,854 | 5.83 | 57,450 | 57,820 | 3.68 | 4.16 | 99.36 | 88.46 |
| Melrose | 58.00 | Separate | 5,581 | 4.28 | 23,890 | 25,420 | 2.45 | 3.81 | 93.98 | 64.30 |
| Boston (Charlestown) | 22.25 | Separate and combined | 5,634 | 4.39 | 24,730 | 24,780 | 0.67 | 1.27 | 99.80 | 52.76 |
| Cambridge | 161.69 | Separate and combined | 19,505 | 5.68 | 110,790 | 110,930 | 5.34 | 5.43 | 99.87 | 98.34 |
| Somerville | 124.33 | Separate and combined | 18,576 | 5.49 | 101,980 | 102,180 | 3.88 | 3.96 | 99.80 | 97.98 |
| Medford | 104.19 | Separate | 11,635 | 5.35 | 62,250 | 63,380 | 4.64 | 6.11 | 98.22 | 75.94 |
| Winchester | 47.44 | Separate | 3,228 | 4.66 | 15,040 | 15,140 | 2.19 | 5.31 | 99.34 | 41.24 |
| Woburn | 32.24 | Separate | 2,109 | 5.38 | 11,350 | 19,770 | 1.50 | 12.23 | 57.41 | 12.26 |
| Stoneham | 22.72 | Separate | 1,783 | 4.37 | 7,790 | 10,720 | 1.13 | 4.27 | 72.67 | 26.46 |
| Arlington | 84.86 | Separate | 7,259 | 5.21 | 37,820 | 40,230 | 3.33 | 4.73 | 94.01 | 70.40 |
| Belmont | 58.37 | Separate | 4,137 | 5.08 | 21,830 [3] | 28,030 [3] | 2.81 | 3.93 | 77.88 | 71.50 |
| Wakefield | 29.54 | Separate | 1,932 | 4.33 | 8,370 | 16,170 | 1.61 | 6.36 | 51.76 | 25.31 |
| Lexington | 18.80 | Separate | 867 | 4.64 | 4,020 | 13,410 | 1.00 | 15.98 | 29.98 | 6.26 |
| Revere | 53.11 | Separate | 5,585 | 5.25 | 29,320 | 34,280 | 2.63 | 5.55 | 85.53 | 47.39 |
| Reading | 11.83 | Separate | 643 | 3.79 | 2,440 | 10,940 | 0.55 | 9.76 | 22.30 | 5.64 |
| Totals | 1,076.21 | – – – | 119,840 | 5.66 | 678,840 | 736,830 | 43.60 | 101.64 | 92.13 | 42.9 |

[1] Estimated from Assessors' statement of the number of houses in each city or town on December 31, 1940 and the population from census of 1940.
[2] Estimated by Superintendent of the Institution on Deer Island.
[3] Including 2 connections with McLean Hospital, having an estimated population of 815.

## South Metropolitan Sewerage System

*Table showing Cities and Towns delivering Sewage to this System; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas; Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations.*

(Populations estimated as of December 31, 1940)

| Cities and Towns | *Miles of Local Sewers Connected* | *Separate or Combined* | *Number of Connections with Local Sewers* | *Estimated Number of Persons Served by Each House Connection* [1] | *Estimated Population Now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area Now Contributing Sewage* | *Area Ultimately to Contribute Sewage* | *Ratio of Contributing Population to Present Total Population* | *Ratio of Contributing Area to Ultimate Area* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sq. Miles | Sq. Miles | Per Cent. | Per Cent. |
| Boston (Back Bay) | 27.84 | Separate and combined | 2,261 | 8.79 | 19,870 | 19,920 | 1.17 | 1.61 | 99.75 | 72.67 |
| Boston (Brighton) | 75.61 | Separate and combined | 6,079 | 10.42 | 63,340 | 66,540 | 3.46 | 3.74 | 95.19 | 92.51 |
| Brookline | 103.15 | Separate and combined | 8,180 | 6.00 | 49,080 | 49,410 | 4.82 | 5.35 | 99.33 | 90.09 |
| Newton | 201.87 | Separate | 14,423 | 4.53 | 65,340 | 69,950 | 9.84 | 16.00 | 93.41 | 61.50 |
| Watertown | 64.30 | Spearate | 6,283 | 5.60 | 35,180 | 35,220 | 2.97 | 3.83 | 99.89 | 77.55 |
| Waltham | 67.86 | Separate | 5,493 | 6.48 | 38,520 [5] | 43,840 [5] | 3.74 | 11.40 | 87.86 | 32.81 |
| Boston (Dorchester) | 75.48 | Separate and combined | 8,514 | 7.67 | 65,300 [2] | 68,300 [2] | 3.08 | 4.89 | 95.61 | 62.99 |
| Milton | 43.62 | Separate and combined | 3,569 | 3.88 | 13,850 [2] | 18,780 [2] | 1.80 | 9.59 | 73.75 | 18.77 |
| Boston (Hyde Park) | 46.93 | Separate | 3,555 | 11.97 | 42,550 | 42,950 | 2.06 | 4.57 | 99.07 | 45.08 |
| Dedham | 31.55 | Separate | 1,832 | 4.27 | 7,820 | 15,440 | 1.39 | 9.66 | 50.65 | 14.39 |
| Boston (Roxbury) [3] | – | – – – | – | – | – | 67,830 [2] | – | 1.23 | – | – |
| Boston (West Roxbury) | 103.23 | Separate and combined | 8,068 | 4.22 | 37,110 [2,4] | 37,770 [2,4] | 3.98 | 8.92 | 98.25 | 44.62 |
| Quincy | 162.44 | Separate | 14,293 | 4.97 | 71,040 | 76,950 | 6.18 | 11.46 | 92.32 | 53.93 |
| Wellesley | 52.09 | Separate | 2,175 | 3.76 | 8,180 | 15,320 | 2.51 | 9.89 | 53.39 | 25.38 |
| Needham | 22.40 | Separate | 1,090 | 3.80 | 4,140 | 12,600 | 0.93 | 11.44 | 32.86 | 8.13 |
| Canton | 3.69 | Separate | 342 | 4.06 | 1,400 | 6,350 | 0.17 | 17.84 | 22.05 | 0.95 |
| Norwood | 35.91 | Separate | 2,371 | 5.54 | 13,140 | 15,390 | 1.87 | 10.16 | 85.38 | 18.41 |
| Stoughton | 5.82 | Separate | 152 | 4.20 | 640 | 8,630 | 0.07 | 16.23 | 7.42 | 0.43 |
| Walpole | 11.35 | Separate | 233 | 4.34 | 1,010 | 7,520 | 0.44 | 20.81 | 13.43 | 2.11 |
| Braintree | 19.11 | Separate | 628 | 3.64 | 2,290 | 16,300 | 0.87 | 13.44 | 14.05 | 6.47 |
| Weymouth | – | Separate | – | – | – | 23,960 | – | 16.46 | – | – |
| Totals | 1,154.25 | – – – | 89,541 | 6.03 | 539,800 | 718,970 | 51.35 | 208.52 | 75.08 | 24.63 |

[1] Estimated from Assessors' statement of the number of houses in each city or town on December 31, 1940 and the population from census of 1940.

[2] Parts of Dorchester, Milton, Roxbury and West Roxbury which are situated within the South Metropolitan Sewerage District limits are tributary at present to Boston main drainage works.

[3] At present connected with Boston main drainage system.

[4] Including connection with the Boston State Hospital, having an estimated population of 3,068.

[5] Including connections with the Metropolitan State Hospital and the Middlesex County Tuberculosis Hospital, authorized by Chapter 372 of the Acts of 1928 and chapter 373 of the Acts of 1929, having an estimated population of 2,927.

[6] Includes 3.65 miles of trunk sewer built by Waltham for the joint use of Waltham, Watertown, Metropolitan State Hospital, and Middlesex County Tuberculosis Hospital, authorized by Chapter 372 of the Acts of 1928 and Chapter 373 of the Acts of 1929.

[7] Includes 4 manufacturing plants.

## Both Metropolitan Sewerage Systems

*Table showing areas delivering Sewage to both Systems; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas; Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations.*

(Populations estimated as of December 31, 1940)

| Systems | *Miles of Local Sewers Connected* | *Separate or Combined* | *Number of Connections with Local Sewers* | *Estimated Number of Persons Served by Each House Connection* | *Estimated Population Now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area Now Contributing Sewage* | *Area Ultimately to Contribute Sewage* | *Ratio of Contributing Population to Present Total Population* | *Ratio of Contributing Area to Ultimate Area* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sq. Miles | Sq. Miles | Per Cent. | Per Cent. |
| North Metropolitan . | 1,076.21 | Separate and combined | 119,840 | 5.66 | 678,840 | 736,830 | 43.60 | 101.64 | 92.13 | 42.9 |
| South Metropolitan . | 1,154.25 | Separate and combined | 89,541 | 6.03 | 539,800 | 718,970 | 51.35 | 208.52 | 75.08 | 24.63 |
| Totals . . | 2,230.46 | – – – | 209,381 | 5.82 | 1,218,640 | 1,455,800 | 94.95 | 310.16 | 83.71 | 30.61 |

# APPENDIX

## Contracts Made and Pending During

### *Contracts Relating to the*

| 1 *Number of Contract* | 2 *Work* | 3 *Number of Bids* | Amount of Bid | | 6 *Contractor* |
|---|---|---|---|---|---|
| | | | 4 *Next to Lowest* | 5 *Lowest* | |
| 1 93*[2] | Section 106A in Medford. | 6 | $332,065.37 | $318,157.84[1] | Edward M. Matz, Inc., 25 Zamora Street, Jamaica Plain, Mass. |
| 2 95*[2] | Section 105 in Medford. | 3 | 835,574.39 | 694,523.90[1] | V. Barletta Co., 10 Whipple Avenue, Roslindale, Mass. |
| 3 96A*[2] | Section 104B in Everett. | 6 | 537,905.34 | 515,821.99[1] | C. & R. Construction Co., 75 Bradeen St., Roslindale, Mass. |
| 4 97 & 98 combined *[2] | Sections 102 and 103, combined, in Everett and Chelsea. | 5 | 1,765,470.70 | 1,628,060.00[1] | Silas Mason Co., Inc., 500 Fifth Avenue, New York, N. Y. |
| 5 99†[2] | Section 101, Siphon under Chelsea Creek, Chelsea and Boston. | 7 | 732,053.52 | 608,538.18[1] | C. & R. Construction Co., 75 Bradeen St., Roslindale, Mass. |
| 6 103† | Pumping Equipment, Temporary East Boston Station, East Boston. | 4 | 67,088.00 | 65,094.00[1] | Turbine Equipment Company of New England, 80 Federal St., Boston. |
| 7 104 | Furnishing and installing two vertical tubular boilers with corrugated iron fire boxes at East Boston Pumping Station, East Boston. | 3 | 12,000.00 | 11,598.00[1] | The Hodge Boiler Works, East Boston, Mass. |
| 8 105†[2] | Outfall Chamber, Temporary East Boston Station, East Boston. | 5 | 11,940.00 | 9,700.00[1] | C. & R. Construction Co., 75 Bradeen St., Roslindale, Mass. |
| 9 106† | Pump House, Temporary East Boston Station, East Boston. | 9 | 8,500.00[1] | 8,291.50 | John Rugo and Son, Inc., 149 Pleasant St., Dorchester, Mass. |
| 10 107 | Furnishing and installing twenty new Sections in Sturtevant Fuel Economizer at the Ward St. Pumping Station, Roxbury, Mass. | 1 | —— | 3,790.00[1] | B. F. Sturtevant Company, Damon St., Hyde Park, Boston, Mass. |
| 11 108[2] | Replacement of screen cages, East Boston Pumping Station, East Boston, Mass. | 3 | 2,800.00 | 2,300.00[1] | Groisser & Shlager Iron Works, 84 Washington St., Somerville, Mass. |

[1] Contract based upon this bid.
[2] Contract completed.
* P.W.A. Project No. Mass. 1419F, D-201, North Metropolitan Relief Sewer.
† P.W.A. Project No. Mass. 1574F, D-204, North Metropolitan Relief Sewer.

# No. 7

THE YEAR 1940 — SEWERAGE DIVISION

*North Metropolitan System*

| 7<br>*Date of Contract* | 8<br>*Date of Completion of Work* | 9<br>*Prices of Principal Items of Contracts made in 1940* | 10<br>*Value of Work done to Dec. 31, 1940* | |
|---|---|---|---|---|
| Oct. 20, 1938 | Oct. 19, 1940 | — | $416,576.70 | 1 |
| Dec. 29, 1938 | July 20, 1940 | — | 878,527.86 | 2 |
| Mar. 2, 1939 | May 24, 1940 | — | 520,795.60 | 3 |
| Mar. 16, 1939 | Aug. 15, 1940 | — | 1,724,967.42 | 4 |
| April 6, 1939 | Nov. 5, 1940 | — | 715,115.86 | 5 |
| Jan. 11, 1940 | — | See Canvass of Bids. | 65,928.00 | 6 |
| May 23, 1940 | — | — | — | 7 |
| Aug. 22, 1940 | Oct. 31, 1940 | See Canvass of Bids. | 9,781.40 | 8 |
| Sept. 5, 1940 | — | See Canvass of Bids. | — | 9 |
| Nov. 7, 1940 | — | Lump sum. | — | 10 |
| Oct. 24, 1940 | Dec. 12, 1940 | Lump sum of $1,770.00. | 1,770.00 | 11 |

Total of 11 Contracts made and pending during the year . . . . . $4,333,462.84

# REPORT OF THE
# METROPOLITAN DISTRICT COMMISSION

December 16, 1947.

*To the Honorable the Senate and House of Representatives of the Commonwealth of Massachusetts in General Court Assembled:—*

The Metropolitan District Commission submits herewith an abridgement of its annual reports for the years 1941, 1942, 1943, 1944, 1945, 1946 and to June 30, 1947, in accordance with the new statute establishing the term of the fiscal year. The Commission has presented in each of these years to your honorable body an abstract of the accounts of its receipts, expenditures, disbursements and liabilities, and now, in accordance with the provisions of section 100 of chapter 92 of the general laws, as amended, presents a detailed statement of its activities for all of the report years as aforesaid. The reports are the twenty-second to the twenty-seventh inclusive.

## ORGANIZATION AND ADMINISTRATION

Max Ulin was appointed Associate Commissioner December 10, 1941 succeeding Melvin B. Breath. William F. Rogers was reappointed Associate Commissioner December 17, 1942. Joseph McKenney was reappointed Associate Commissioner December 9, 1943. Eugene C. Hultman after a long and honorable career in the public service died on April 22, 1945. Mr. Hultman had served two five-year terms as Metropolitan District Commissioner at the time of his death. William T. Morrissey of Boston was appointed Commissioner June 13, 1945 to succeed Mr. Hultman. John J. Grigalus was appointed Associate Commissioner February 28, 1946, succeeding Philip G. Bowker. Max Ulin was reappointed Associate Commissioner on February 12, 1947. The Commission as now constituted includes William T. Morrissey, Commissioner, William F. Rogers, Joseph McKenney, Max Ulin and John J. Grigalus, Associate Commissioners.

Nelson Curtis has continued as Secretary of the Commission since his appointment on January 1, 1941. Samuel E. Killam, Director of the Water Division and Chief Water Supply Engineer died on June 18, 1942. During his long service with the Metropolitan Water Supply System beginning August 3, 1897, Mr. Killam ably served the Commission in a number of important capacities. Frederick W. Gow, Division Engineer in the Metropolitan District Water Supply Commission served as Acting Director and Chief Water Supply Engineer from August 10, 1942 to November 30, 1944 at which time he returned to his duties as Division Engineer with the Water Supply Commission. Harold J. Toole was appointed Acting Director of the Water Division and Chief Water Supply Engineer December 1, 1944 and was given a permanent appointment to the post on November 1, 1945. Joseph P. Dever retired as Director and Chief Engineer of the Sewerage Division on July 22, 1943. Ralph W. Loud was appointed Acting Director and Chief Engineer July 23, 1943, serving until July 5, 1945 when he was succeeded by Thomas A. Berrigan as permanent Director and Chief Engineer of the Sewerage Division. Benjamin R. Davis has continued as Director of Park Engineering.

The average number of permanent positions and temporary employees during the period covered by this report is, as follows: —

| | *Administration* | *Parks Division* | *Sewerage Division* | *Water Division* | *Total* |
|---|---|---|---|---|---|
| Permanent . . . . | 49 | 684 | 251 | 409 | 1392 |
| Temporary . . . . | 30 | 455 | 85 | 93 | 663 |
| | 79 | 1139 | 336 | 502 | 2055 |

The Commission, at the outbreak of the War in December, 1941, quickly put stringent measures into effect in order that its activities might be directed into channels where the least interference with the war effort and the use of critical materials were concerned. Maintenance and operating forces were reduced wher-

ever it was possible without interference with essential services. Fifty-three motor vehicles of the Commission were taken out of service and placed in the Commonwealth storage pool. The use of other vehicles was restricted to the greatest possible extent to conserve gasoline and wear on tires. One hundred and eight employees of the Commission served in the Armed Forces in World War II. Edmund C. Knight, a sanitary engineering assistant in the Water Division was killed in action on December 9, 1944.

The Metropolitan District Police, although substantially depleted in strength through war enlistments, performed notable work during the early months of the war emergency in guarding vital water supply installations against sabotage and continued on these assignments until the Massachusetts State Guard was able to take over the protection of the many dams, aqueducts and other facilities that had to be guarded against damage.

The Commission operated and maintained all of its recreational facilities during the war years to an acceptable standard in the face of innumerable difficulties. A great proportion of our physical plant in all divisions is sadly in need of replacement or major repair because most of such work necessarily had to be deferred through a shortage of manpower or lack of materials. A fair start has been made in this direction during the past year particularly in getting our snow plowing equipment in good order again. Much of what we had could hardly last through another winter.

## Bath Houses

The bath houses at Nantasket, Revere, Nahant and other locations under the Commission's jurisdiction operated during and since the war years between late June and early September. The attendance over these years averaged substantially in excess of previous seasons, the figure being roughly 175,000 per season. Receipts averaged about $35,000 per year. During the war years service men and women were allowed free use of our bath houses or other facilities where fees ordinarily are charged.

## Golf Courses

The Riverside and Ponkapoag Public Golf Courses were open in each year from early April until late November. The additional nine holes at Ponkapoag were put in play at the start of the 1941 season. The twenty-seven holes now available at Ponkapoag allows the operation of two courses, greatly expediting play on this most busy course. Memberships at each club are now almost exceeding allowable limits with 800 at Ponkapoag and 700 at Riverside. Greens fee payers have also sharply increased at both courses and receipts generally are 50% in advance of pre-war years from an average of about $20,000 per season at each course to a 1946 average of $32,000. Chapter 357 of the Acts of 1945 permitted the Commission to change the name of the Riverside course to the Leo Jerome Martin Memorial Golf Course in honor of a former state amateur champion and a member at Riverside. Mr. Martin was killed in War World II. A memorial bronze plaque attached to a massive boulder has been placed on the clubhouse grounds in Mr. Martin's honor.

## Band Concerts

During the war years the playing of band concerts in our Metropolitan Reservations was discontinued. The scheduling of band concerts was resumed in 1945, however, when an appropriation of $15,000 was included in our budget. The Commission arranged a schedule of 75 concerts during the summer of 1945 with this appropriation. Our 1946 budget provided the sum of $20,000 with which we were able to schedule 92 concerts during the 1946 season.

The Esplanade Concerts in the music shell on the Storrow Memorial Embankment were continued through their thirteenth to eighteenth seasons. These concerts, under the sponsorship of the Boston Symphony Orchestra have now finished their eighteenth consecutive season under the distinguished leadership of Arthur Fiedler. They have consistently grown in popularity through each succeeding year and are now attended by tremendously large audiences. During the war years the concerts attracted large numbers of servicemen and women on duty or on leave in Boston. Each series of concerts included about 21 evening performances and 3 Wednesday

morning concerts for children, starting usually about the first of July. The estimated total attendance per season ran to about 325,000 persons and chair rentals have exceeded 140,000 during seasons of exceptionally good weather.

The Massachusetts Federation of Music Clubs under the directorship of Mrs. Robert S. Hoffman has sponsored a number of musical and artistic events in the Shell during the past two years. These have been principally performances by amateur instrumental, singing and dancing groups from the Greater Boston area and have proven to be quite popular attractions.

Former Governor Alvan T. Fuller sponsored a series of Sunday afternoon organ recitals in the Shell during August and early September, 1946. These recitals were played by Wilfred Tremblay, popular Boston organ virtuoso on the giant Hammond organ installed in the Shell by Mr. Fuller as a memorial to his mother, Mrs. Flora A. Fuller. Mr. Tremblay's recitals were very well received by good-sized audiences and were notable for their artistic excellence.

Many patriotic exercises were put on at the Shell during the war years including the annual "I AM AN AMERICAN" day and others by various veterans organizations.

### Airplane Spraying

The Commission inaugurated a program of airplane spraying of gypsy moth and other infestations in its reservations with DDT compounds in the spring of 1947. A contract was awarded the F. A. Bartlett Tree Expert Company, the lowest bidders for the work, at a cost of $1.49 per acre for 4,623 acres and $1.51 per acre for 1,110 acres. The work covered large areas in the Blue Hills, Stony Brook, Middlesex Fells, Breakheart, Charles River and other districts. Exceptionally good results are expected from this new method at a cost of only a fraction of the expense entailed in ground spraying with power sprayers.

### Special Investigations

The Commission was authorized and directed by the General Court to investigate and report on the following matters on which legislative resolves were enacted:

1941 — Resolve No. 29, providing for an investigation by the Commission relative to the construction of a radial highway from a point at or near the South Station in Boston to the vicinity of Pierce Square in Milton or the Neponset Bridge in Quincy.
Resolve No. 93, providing for an investigation by the Metropolitan District Commission and the State Department of Public Health relative to additional sewerage works for the South Metropolitan Sewerage System in Dorchester and Milton.

1943 — Resolve No. 40, providing for a study and survey by the Metropolitan District Commission and the State Department of Public Health of the Neponset River with a view to the improvement and beautification of its banks and the elimination and prevention of pollution.

1945 — Resolve No. 21, providing for an investigation by the Commission relative to the placing of tablets on Bunker Hill Monument to commemorate the war services of Charlestown residents.
Resolve No. 28, providing for an investigation by the Commission of the advisability of sanding Revere Beach.
Resolve No. 59, providing for an investigation of the conditions of the flow of water in the Neponset River and related matters by a joint board consisting of the Metropolitan District Commission, the State Department of Public Health and the Metropolitan District Water Supply Commission.
Resolve No. 64, providing for an investigation by the Commission relative to the acquisition of certain public bathing beaches of the City of Boston in the South Boston district.
Resolve No. 70, providing for an investigation by the Commission relative to the establishment of a separate police unit at Lynn Shore Reservation.

1946 — Resolve No. 27, providing for a further investigation by the Commission relative to the sanding of Revere Beach.

Resolve No. 80, providing for an investigation by the Commission relative to the construction and maintenance of a public golf course in the Middlesex Fells Reservation. All of the reports on the foregoing were filed at the time designated in the resolves.

The Commission was represented on special recess commissions established by the Legislature under the following enactments: —

1941 — Resolve No. 75, providing for an investigation and study of traffic congestion in, and in the vicinity of Boston and in other parts of the Commonwealth.

1943 — Resolve No. 46, providing for an investigation to consider and recommend a post-war program of highway projects.

1946 — Resolve No. 70, providing for a survey and study of the problem of obtaining better protection along the coast line of the Commonwealth against loss of life or property caused by storms.

Resolve No. 79, providing for an investigation relative to authorizing the Metropolitan District Commission to transfer to the Department of Conservation certain reservoirs in the Sudbury basin no longer needed for water supply purposes.

## Legislative Recommendations

The Commission will recommend to the 1948 session of the Legislature, enactment of the following matters: —

*1.* Relative To The Construction Of A Parkway Along The Storrow Memorial Embankment In Boston From Embankment Road Near Charles Street To Soldiers Field Road.

Chapter 572 of the Acts of 1946 directed the Commission to prepare plans, estimates and specifications for the foregoing project. The Commission now recommends that construction of the parkway be authorized and that funds therefor be appropriated from the Highway Fund.

*2.* Relative To The Construction Of Seawalls And Other Works Along Winthrop Shore Reservation In Winthrop.

The Commission recommends that an appropriation be provided for seawall reconstruction, construction of groins and other improvements at Winthrop Shore Reservation as recommended in the report of the Federal Beach Erosion Board and the United States Army District Engineers, based on an exhaustive survey (co-sponsored by the Metropolitan District Commission) of beach erosion and storm damage in the Boston Harbor area.

*3.* Relative To The Continuation Of Contracts With The United States Of America For Furnishing Water To The Murphy General Hospital In Waltham And Sewage Disposal Facilities To The United States Navy Storehouse In Hingham.

Chapter 420 of the Acts of 1947 authorized the Commission to extend the foregoing contracts, originally negotiated under the Governor's emergency war-time powers, to March 31, 1948. As neither the City of Waltham nor the Town of Hingham will likely be in a position to take these services over after termination of the period authorized by said Chapter 420 and, as it is imperative that said services to these governmental facilities not be interrupted, the Commission recommends an extension of the authority granted it to supply them, until such time as the City of Waltham and the Town of Hingham join the Water and South Sewerage District respectively, or can furnish the services without assistance from the Commission.

*4.* Relative To The Advisability Of Revising The Formulae For Proportioning Metropolitan Parks District Expenses.

The Commission recommends the establishment of a special recess commission to determine the advisability of a revision of the current methods of assessing Metropolitan Parks expenses against cities and towns in the Metropolitan Parks District, particularly as regards the possibility of simplifying the very involved accounting procedures now required under the present system.

*5.* Relative To Revising The Method Of Assessment Of Towns In The Metropolitan Water District.

The subcommittee of financial experts of the so-called Governor's Committee in 1944 reported (1) that it was financially impracticable to aim at an average cost of less than $45 per m.g. (2) that the plan of price reduction should not be put into effect until new members joined the District (3) that the Water-Use-Development Bonds issued under the plan should be based on capital costs only independent of the cost of maintenance. Chapter 587 of the Acts of 1945 (with clarifying amendments in Chapter 549 of the Acts of 1946) disregarded all of these in fixing the price within the District at $40 per m.g. and as a result during the last two years the District has added nearly $5,000,000 to its debt with nothing to show for its important additions to membership. The Commission recommends an amendment of the statutes to correct this situation particularly with reference to (1) and (3) above. The plan recommended in the proposed legislation aims at a price of approximately $50 per m.g. except that the towns of Saugus and Winchester, that recently joined the District can rightfully claim to have done so on account of the $40 legislation, will continue to get water at $40.

## Other Reports

The reports of the Directors of Parks Engineering, Water and Sewerage and the Superintendent of Police, with tabulations, charts, financial statements and other statistics, are appended. While these reports have been condensed, all statistical information where continuity is desirable, is fully presented.

Respectfully submitted,

William T. Morrissey,
*Metropolitan District Commissioner.*

# FINANCIAL STATEMENTS

## OF THE

# METROPOLITAN DISTRICT COMMISSION

(Due to the necessity for abridging the annual reports included in this volume, only general financial statements will be printed for the years 1941 to June 30, 1946, inclusive. A detailed statement for the year ending June 30, 1947 is included.)

## GENERAL FINANCIAL STATEMENT

### Year Ending November 30, 1941

| | |
|---|---|
| Expended for construction | $ 1,045,189.78* |
| Expended for maintenance | 4,120,499.54** |
| Expended for miscellaneous | 3,153.15 |
| Total expenditures | 5,168,842.47 |
| Unexpended balance, maintenance appropriations | 498,326.11 |
| Serial bonds and notes issued | 275,000.00 |
| Sinking fund bonds paid | 10,750,000.00 |
| Serial bonds and notes paid | 706,437.50 |
| Decrease in sinking fund | 10,012,396.63 |
| Decrease in net debt | 1,169,040.87 |

### On November 30, 1941

| | |
|---|---|
| Net Debt | $10,842,490.68 |

(*Note:* The above figures do not include expenditures, bonds issued, etc., of the Metropolitan District Water Supply Commission.)

*Of this amount $ 19,719.31 is for Massachusetts State Project D-206, P.W.A. Docket No. 1512-F, P.W.A. Fund, Share With State Appropriations, Underpass at Columbia Circle.

1,158.17 is for Massachusetts State Project D-207, P.W.A. Docket No. 1510-F, Highway Fund, Appropriations for P.W.A. Projects, Traffic Circle at West Roxbury Parkway and Centre Street.

3,873.38 is for Massachusetts State Project D-210, P.W.A. Docket No. 1555-F, P.W.A. Fund, Share With State Appropriations, Overpass and Traffic Circle, Cottage Farm Bridge.

7,161.32 is for Massachusetts State Project D-101, P.W.A. Docket No. 1098-R, P.W.A. Fund, Share With Special Bond Funds.

408,021.76 is for Massachusetts State Project D-201, P.W.A. Docket No. 1419-F, P.W.A. Fund, Share With Special Bond Funds.

74,238.14 is for Siphon, Chelsea Creek, Massachusetts State Project D-204, P.W.A. Docket No. 1574-F, P.W.A. Fund, Share With Special Bond Funds.

100,345.60 is for Siphon, Chelsea Creek, Massachusetts State Project D-204, P.W.A. Docket No. 1574-F (Supplementary), P.W.A. Fund, Share With Special Bond Funds.

**Of this amount 325.00 is for Massachusetts State Project D-209, P.W.A. Docket No. 1585-F, Highway Fund, Maintenance of Boulewards and Parkways, Traffic Circle on Revere Beach Parkway.

FINANCIAL STATEMENT VERIFIED
March 14, 1942 J. D. MacDonald
Walter S, Morgan,
*Comptroller.*

## GENERAL FINANCIAL STATEMENT

### Year Ending November 30, 1942

| | |
|---|---|
| Expended for construction | $ 253,032.77* |
| Expended for maintenance | 4,088,805.66 |
| Expended for miscellaneous | 1,927.19 |
| Expended for war emergencies | 142,833.61 |
| Total expenditures | 4,486,599.23 |
| Unexpended balance, maintenance appropriations | 283,902.64 |
| Sinking fund bonds paid | 3,500,000.00 |
| Serial bonds and notes paid | 977,937.50 |
| Decrease in sinking fund | 2,599,990.91 |
| Decrease in net debt | 1,877,946.63 |

### On November 30, 1942

| | |
|---|---|
| Net Debt | $8,964,544.05 |

(*Note:* The above figures do not include expenditures, bonds issued, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $ 2,017.31 is for Massachusetts State Project D-101, P.W.A. Docket No. 1098-R, P.W.A Fund, Share With Special Bond Funds.
28,831.18 is for Massachusetts State Project D-201, P.W.A. Docket No. 1419-F, P.W.A. Fund, Share With Special Bond Funds.
67,350.36 is for Massachusetts State Project D-204 (Supplementary), P.W.A. Docket No. 1574-F, Siphon Chelsea Creek, P.W.A. Fund, Share With Special Bond Funds.
28,897.80 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F, Siphon, Chelsea Creek, P.W.A. Fund, Share With Special Bond Funds.

FINANCIAL STATEMENT VERIFIED
April 7, 1943 J. D. MacDonald
Walter S. Morgan,
*Comptroller.*

## GENERAL FINANCIAL STATEMENT

### Year Ending November 30, 1943

| | |
|---|---|
| Expended for construction | $ 19,728.53* |
| Expended for maintenance | 4,217,483.57 |
| Expended for miscellaneous | 100.00 |
| Expended for war emergencies | 31,852.46 |
| Total expenditures | 4,269,164.56 |
| Unexpended balance, maintenance appropriations | 578,397.72 |

(*Note:* The above figures do not include expenditures, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $18,576.38 is for Massachusetts State Project D-201, P.W.A. Docket No. 1419-F Share With Special Bond Funds.
751.55 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F (Supplementary), Share With Special Bond Funds.

The principal financial items of this report are in agreement with the Comptroller's books.
Joseph A. Prenney
January 25, 1949

F. A. Moncewicz,
*Comptroller.*

## GENERAL FINANCIAL STATEMENT

### Year Ending November 30, 1944

| | |
|---|---|
| Expended for construction | $ 16,165.62* |
| Expended for maintenance | 4,491,390.18 |
| Expended for war emergencies | 4,951.59 |
| Total expenditures | 4,512,507.39 |
| Unexpended balance, maintenance appropriations | 491,511.83 |

(*Note:* The above figures do not include expenditures, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $16,641.52 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F (Supplementary), Share With Special Bond Funds.
2,190.00 is credit to Metropolitan Water Construction Fund, General, Share With Special Bond Funds.

The principal financial items of this report are in agreement with the Comptroller's books.
Joseph A. Prenney
January 25, 1949

F. A. Moncewicz,
*Comptroller.*

## GENERAL FINANCIAL STATEMENT

PERIOD DECEMBER 1, 1944–JUNE 30, 1945

| | |
|---|---|
| Expended for construction | $ 2,474.25* |
| Expended for maintenance | 2,493,295.43 |
| Total expenditures | 2,495,769.68 |
| Unexpended balance, maintenance appropriations | 191,424.92 |

(*Note:* The above figures do not include expenditures, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $2,413.75 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F (Supplementary), Share With Special Bond Funds.

FINANCIAL STATEMENT VERIFIED
March 13, 1946 J. D MACDONALD
FRANCIS X. LANG, *Comptroller.*

## GENERAL FINANCIAL STATEMENT

YEAR ENDING JUNE 30, 1946

| | |
|---|---|
| Expended for construction | $ 30,031.50* |
| Expended for maintenance | 5,120,482.02 |
| Total expenditures | 5,150,513.52 |
| Unexpended balance, maintenance appropriations | 1,808,789.25 |

(*Note:* The above figures do not include expenditures, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $30,314.44 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F, (Supplementary), Share With Special Bond Funds.

282.94 is a credit to Metropolitan Water Construction Fund, General, Share With Special Bond Funds.

The principal financial items of this report are in agreement with the Comptroller's books.
JOSEPH A. PRENNEY
January 25, 1949

F. A. MONCEWICZ, *Comptroller.*

## GENERAL FINANCIAL STATEMENT

YEAR ENDING JUNE 30, 1947

| | |
|---|---|
| Expended for construction | $ 48,572.26* |
| Expended for maintenance | 7,070,852.80 |
| Total expenditures | 7,119,425.06 |
| Unexpended balance, maintenance appropriations | 2,301,000.67 |

(*Note:* The above figures do not include expenditures, etc. of the Metropolitan District Water Supply Commission.)

*Of this amount $14,716.49 is for Massachusetts State Project D-204, P.W.A. Docket No. 1574-F (Supplementary), Share With Special Bond Funds.

The principal financial items of this report are in agreement with the Comptroller's books.
JOSEPH A. PRENNEY
January 25, 1949

F. A. MONCEWICZ, *Comptroller.*

The total number of permanent positions as of June 30, 1947 and the number of temporary employees during the year is divided as follows:

| | *Administration* | *Parks Division* | *Sewerage Division* | *Water Division* | *Total* |
|---|---|---|---|---|---|
| Permanent | 51 | 725 | 245 | 407 | 1,428 |
| Temporary | 33 | 496 | 85 | 90 | 704 |
| | 84 | 1,221 | 330 | 497 | 2,132 |

# FINANCIAL STATEMENT

of the

# METROPOLITAN DISTRICT COMMISSION

For the Year Ending June 30, 1947

| | *Condition of Fund as of July 1, 1946* | *Amount Available 1947* | *Expended July 1, 1946–June 30, 1947* | *Balance July 1, 1947* |
|---|---|---|---|---|
| **ADMINISTRATION** | | | | |
| Account No. 8501 | | | | |
| General Metropolitan District Administration: | | | | |
| Chapter 309, Acts of 1946 | | $129,000.00 | | |
| Chapter 617, Acts of 1946 | | 25,200.00 | | |
| Chapter 617, Acts of 1946 | | 5,500.00 | | |
| | | $159,700.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 917.41 | | |
| | | $160,617.41 | $153,726.40 | $ 6,891.01 |
| **PARKS DIVISION** | | | | |
| Account No. 8506 | | | | |
| Bunker Hill Monument Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $ 13,090.00 | | |
| Chapter 617, Acts of 1946 | | 3,675.00 | | |
| | | $ 16,765.00 | $ 15,113.21 | $ 1,651.79 |
| Account No. 8506-21 | | | | |
| Monument and General Repairs: | | | | |
| Chapter 682, Acts of 1945 | $ 9,500.00 | | | |
| Expended to June 30, 1946 | 4,133.15 | | | |
| | | $ 5,366.85 | | |
| Chapter 309, Acts of 1946 | | 26,500.00 | | |
| | | $ 31,866.85 | $ 7,045.68 | $24,821.17 |
| Account No. 8602 | | | | |
| Metropolitan District Parks Fund, General Parks Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $706,990.00 | | |
| Chapter 617, Acts of 1946 | | 137,555.00 | | |
| Chapter 617, Acts of 1946 | | 44.88 | | |
| | | $844,589.88 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 12,664.38 | | |
| | | $857,254.26 | $823,076.01 | $34,178.25 |
| Account No. 8602-27 | | | | |
| Gypsy Moth Suppression: | | | | |
| Chapter 309, Acts of 1946 | | $ 15,000.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 108.32 | | |
| | | $ 15,108.32 | $ 11,584.39 | $ 3,523.93 |
| Account No. 8602-32 | | | | |
| Sanding Malibu Beach: | | | | |
| Chapter 736, Acts of 1945 | $ 5,000.00 | | | |
| Expended to June 30, 1946 | 4,416.56 | | | |
| | | $ 583.44 | – | $ 583.44 |
| Account No. 8602-33 | | | | |
| Fence Bordering Neponset River: | | | | |
| Chapter 572, Acts of 1943 | $ 18,000.00 | | | |
| Expended to June 30, 1946 | 31.10 | | | |
| Reappropriated, Chapter 682, Acts of 1945 | | $ 17,968.90 | $ 14,278.93 | $ 3,689.97 |
| Account No. 8602-34 | | | | |
| Repairing Shelters, Revere Beach: | | | | |
| Chapter 682, Acts of 1945 | $ 9,000.00 | | | |
| Expended to June 30, 1946 | 3,471.73 | | | |
| | | $ 5,528.27 | $ 5,469.42 | $ 58.85 |
| Account No. 8602-35 | | | | |
| Repairing Sanitaries, Revere Beach: | | | | |
| Chapter 682, Acts of 1945 | $ 2,000.00 | | | |
| | | $ 2,000.00 | $ 1,995.00 | $ 5.00 |
| Account No. 8602-36 | | | | |
| Hatch Memorial Shell Repairs: | | | | |
| Chapter 682, Acts of 1945 | $ 2,500.00 | | | |
| Expended to June 30, 1946 | 2,493.12 | | | |
| | | $ 6.88 | – | $ 6.88 |

| Parks Division (*Continued*) | *Condition of Fund as of July 1, 1946* | *Amount Available 1947* | *Expended July 1, 1946– June 30, 1947* | *Balance July 1, 1947* |
|---|---|---|---|---|
| Account No. 8602-37 | | | | |
| Band Concerts: | | | | |
| Chapter 309, Acts of 1946 | | $ 20,000.00 | $ 19,994.00 | $ 6.00 |
| Account No. 8602-38 | | | | |
| Baseball Field, Magazine Beach: | | | | |
| Chapter 736, Acts of 1945 | $ 7,500.00 | | | |
| Expended to June 30, 1946 | 52.65 | | | |
| | | $ 7,447.35 | $ 5,600.83 | $ 1,846.52 |
| Account No. 8602-39 | | | | |
| Alewife Brook Dredging: | | | | |
| Chapter 736, Acts of 1945 | $ 42,000.00 | | | |
| Expended to June 30, 1946 | 22,490.76 | | | |
| | | $ 19,509.24 | $ 10,230.38 | $ 9,278.86 |
| Account No. 8602-40 | | | | |
| Shelter, Town of Arlington: | | | | |
| Chapter 736, Acts of 1945 | $ 1,500.00 | | | |
| Chapter 402, Acts of 1946 | 1,050.00 | | | |
| | $ 2,550.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 2,550.00 | – | $ 2,550.00 |
| Account No. 8602-41 | | | | |
| Revere Beach Recreational Facilities: | | | | |
| Chapter 736, Acts of 1945 | $ 2,500.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 2,500.00 | – | $ 2,500.00 |
| Account No. 8602-43 | | | | |
| John A. Hovey Memorial Beach Improvements: | | | | |
| Chapter 763, Acts of 1945 | $ 20,000.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 20,000.00 | | |
| Chapter 617, Acts of 1946 | | 10,000.00 | | |
| | | $ 30,000.00 | $ 1,250.00 | $ 28,750.00 |
| Account No. 8602-45 | | | | |
| Merrymount Beach, Jetty and Channel: | | | | |
| Chapter 309, Acts of 1946 | | $ 7,500.00 | $ 15.25 | $ 7,484.75 |
| Account No. 8602-58 | | | | |
| Quinobequin Road, Resurfacing: | | | | |
| Chapter 617, Acts of 1946 | | $ 20,000.00 | $ 496.00 | $ 19,504.00 |
| Account No. 8602-59 | | | | |
| Swimming Pool, Middlesex Fells: | | | | |
| Chapter 617, Acts of 1946 | | $125,000.00 | $ 246.76 | $124,753.24 |
| Account No. 8602-60 | | | | |
| Recreational Facilities, Revere Beach: | | | | |
| Chapter 617, Acts of 1946 | | $ 2,000.00 | – | $ 2,000.00 |
| Account No. 8602-61 | | | | |
| Construction of Fence, Neponset River: | | | | |
| Chapter 617, Acts of 1946 | | $ 6,000.00 | – | $ 6,000.00 |
| Account No. 8602-62 | | | | |
| Band Stand and Lavatory, Lynn Beach: | | | | |
| Chapter 617, Acts of 1946 | | $ 30,000.00 | – | $ 30,000.00 |
| Account No. 8606-01 | | | | |
| Charles River Basin Improvements, Construction: | | | | |
| Chapter 371, Acts of 1929 | $1,305,000.00 | | | |
| Less Chapter 179, Acts of 1931 | 25,000.00 | | | |
| | $1,280,000.00 | | | |
| Gift of Mrs. Storrow with interest | 1,129,110.90 | | | |
| | $2,409,110.90 | | | |
| Expended to June 30, 1946: | | | | |
| Construction $2,198,480.96 | | | | |
| Recreation Building 97,026.39 | | | | |
| Boat House 72,102.95 | | | | |
| | 2,367,610.30 | | | |
| | $ 41,500.60 | | | |
| Less amount transferred to Account No. 8606-04 | 37,329.68 | | | |
| | | $ 4,170.92 | | |
| Unexpended balance of Account No. 8606-04 reverted to Account No. 8606-01 | | 263.62 | | |
| | | $ 4,434.54 | $ 4,432.87 | $ 1.67 |

| | Condition of Fund as of July 1, 1946 | Amount Available 1947 | Expended July 1, 1946–June 30, 1947 | Balance July 1, 1947 |
|---|---|---|---|---|
| Parks Division (*Continued*) | | | | |
| Account No. 8606-04 | | | | |
| Charles River Basin Improvements, Bath House at Gerry's Landing: | | | | |
| Amount transferred from Account No. 8606-01, Charles River Basin Improvements, Construction | $ 37,329.68 | | | |
| Expended to June 30, 1946 | 37,066.06 | | | |
| | | $ 263.62 | | |
| Reverted to Charles River Basin Improvements, Construction | | 263.62 | – | – |
| Account No. 8606-21 | | | | |
| Play Areas, Charles River Basin: | | | | |
| Chapter 361, Acts of 1946 | $ 4,000.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 4,000.00 | | |
| Chapter 480, Acts of 1947 | | 5,000.00 | | |
| | | $ 9,000.00 | $ 3,855.68 | $ 5,144.32 |
| Account No. 8606-22 | | | | |
| Faneuil Playground: | | | | |
| Chapter 454, Acts of 1946 | | $ 25,000.00 | – | $25,000.00 |
| Account No. 8606-90 | | | | |
| Charles River Basin Improvement Fund: | | | | |
| Income | $ 91,028.07 | | | |
| Interest on the Commonwealth's share and the cities and towns share of the money set up for the Charles River Basin Improvement, less amounts transferred to Account No. 8606-21 | 4,000.00 | | | |
| | | $ 87,028.07 | | |
| Less amounts transferred in 1947: | | | | |
| Account No. 8606-21 $ 5,000.00 | | | | |
| Account No. 8606-22 25,000.00 | | | | |
| Account No. 8607-25 15,000.00 | | | | |
| | | 45,000.00 | | |
| | | $ 42,028.07 | – | $42,028.07* |
| Account No. 8607 | | | | |
| Charles River Basin Maintenance Fund: | | | | |
| Chapter 309, Acts of 1946 | | $192,010.00 | | |
| Chapter 617, Acts of 1946 | | 36,135.00 | | |
| | | $228,145.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 572.03 | | |
| | | $228,717.03 | $214,405.44 | $14,311.59 |
| Account No. 8607-23 | | | | |
| Fens Gate House and Boston Marginal Conduit Repairs: | | | | |
| Chapter 682, Acts of 1945 | $ 40,000.00 | | | |
| Expended to June 30, 1946 | 12,043.22 | | | |
| | | $ 27,956.78 | $ 23,191.07 | $ 4,765.71 |
| Account No. 8607-24 | | | | |
| Cambridge Marginal Conduit Repairs: | | | | |
| Chapter 682, Acts of 1945 | $ 3,000.00 | | | |
| Expended to June 30, 1946 | 1,552.19 | | | |
| | | $ 1,447.81 | $ 975.00 | $ 472.81 |
| Account No. 8607-25 | | | | |
| Boat Landing and Ramp: | | | | |
| Chapter 617, Acts of 1946 | | $ 15,000.00 | – | $15,000.00 |
| Account No. 8611 | | | | |
| Nantasket Beach Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $ 65,165.00 | | |
| Chapter 617, Acts of 1946 | | 15,180.00 | | |
| | | $ 80,345.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 174.45 | | |
| | | $ 80,519.45 | $ 77,570.93 | $ 2,948.52 |
| Account No. 8611-23 | | | | |
| Removing Shipwrecked Hulk: | | | | |
| Chapter 682, Acts of 1945 | $ 8,000.00 | | | |
| Expended to June 30, 1946 | 4,585.70 | | | |
| | | $ 3,414.30 | $ 806.55 | $ 2,607.75 |
| Account No. 8611-24 | | | | |
| Toilet Facilities: | | | | |
| Chapter 682, Acts of 1945 | $ 8,000.00 | | | |
| Expended to June 30, 1946 | 6,796.25 | | | |
| | | $ 1,203.75 | $ 1,195.95 | $ 7.80 |

* This money not available for expenditure except by special legislation.

| | Condition of Fund as of July 1, 1946 | Amount Available 1947 | Expended July 1, 1946–June 30, 1947 | Balance July 1, 1947 |
|---|---|---|---|---|
| Parks Division (*Continued*) | | | | |
| Account No. 8611-25 | | | | |
| Roofing Repairs: | | | | |
| Chapter 309, Acts of 1946 | | $ 12,000.00 | $ 4,888.41 | $ 7,111.59 |
| Title changed to Roofing and Other Repairs, Chapter 261, Acts of 1947. | | | | |
| Account No. 8611-28 | | | | |
| Waiting Room Building, Roof Repairs: | | | | |
| Chapter 309, Acts of 1946 | | $ 3,000.00 | $ 2,955.00 | $ 45.00 |
| Account No. 8731 | | | | |
| Highway Fund, Maintenance of Boulevards and Parkways: | | | | |
| Chapter 309, Acts of 1946 | | $1,443,200.00 | | |
| Chapter 617, Acts of 1946 | | 254,460.00 | | |
| | | $1,697,660.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 43,435.00 | | |
| | | $1,741,095.00 | $1,636,479.76 | $104,615.24 |
| Account No. 8731-22 | | | | |
| Neponset Circle, Improvements: | | | | |
| Chapter 682, Acts of 1945 | $ 5,000.00 | | | |
| Expended to June 30, 1946 | 4,994.10 | | | |
| | | 5.90 | – | $ 5.90 |
| Account No. 8731-23 | | | | |
| Repairs to Tide-gates, Mystic Valley Parkway: | | | | |
| Chapter 682, Acts of 1945 | $ 4,800.00 | | | |
| Expended to June 30, 1946 | 4,470.00 | | | |
| | | $ 330.00 | – | $ 330.00 |
| Account No. 8731-24 | | | | |
| Fence Repairs, Mystic Valley Parkway: | | | | |
| Chapter 682, Acts of 1945 | $ 1,500.00 | | | |
| Expended to June 30, 1946 | 940.00 | | | |
| | | $ 560.00 | – | $ 560.00 |
| Account No. 8731-25 | | | | |
| Fence Repairs, Cambridge Parkway: | | | | |
| Chapter 682, Acts of 1945 | $ 1,500.00 | | | |
| Expended to June 30, 1946 | 1,175.00 | | | |
| | | $ 325.00 | – | $ 325.00 |
| Account No. 8731-26 | | | | |
| River Wall, Mystic Valley Parkway: | | | | |
| Chapter 682, Acts of 1945 | $ 7,500.00 | | | |
| Expended to June 30, 1946 | 7,489.95 | | | |
| | | $ 10.05 | – | $ 10.05 |
| Account No. 8731-27 | | | | |
| Shore Protection, Lynn, Quincy, Winthrop: | | | | |
| Chapter 682, Acts of 1945 | $120,000.00 | | | |
| Expended to June 30, 1946 | 107,105.76 | | | |
| | | $ 12,894.24 | $ 12,598.06 | $ 296.18 |
| Account No. 8731-30 | | | | |
| Extending Drain, Quincy Shore: | | | | |
| Chapter 682, Acts of 1945 | $ 3,000.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 3,000.00 | | |
| Chapter 309, Acts of 1946 | | 3,000.00 | | |
| | | $ 6,000.00 | $ 392.17 | $ 5,607.83 |
| Account No. 8731-32 | | | | |
| Shelter, West Roxbury Parkway: | | | | |
| Chapter 682, Acts of 1945 | $ 1,500.00 | | | |
| Expended to June 30, 1946 | 1,487.00 | | | |
| | | $ 13.00 | – | $ 13.00 |
| Account No. 8731-33 | | | | |
| Beach Erosion Board: | | | | |
| Chapter 309, Acts of 1946 | | $ 5,000.00 | $ 5,000.00 | – |
| Account No. 8731-34 | | | | |
| Old Colony Parkway, Drain: | | | | |
| Chapter 309, Acts of 1946 | | $ 6,500.00 | – | $ 6,500.00 |
| Account No. 8731-35 | | | | |
| Shore Protection, Lynn, Quincy, and Revere Beach: | | | | |
| Chapter 309, Acts of 1946 | | $ 40,000.00 | $ 4,335.56 | $ 35,664.44 |
| Account No. 8731-39 | | | | |
| Landscaping, Mystic Valley Parkway: | | | | |
| Chapter 309, Acts of 1946 | | $ 15,000.00 | – | $ 15,000.00 |
| Account No. 8731-44 | | | | |
| Street Lighting System: | | | | |
| Chapter 309, Acts of 1946 | | $ 157,000.00 | – | $157,000.00 |
| Account No. 8731-45 | | | | |
| Sea Wall, Revere Beach: | | | | |
| Chapter 617, Acts of 1946 | | $ 10,000.00 | – | $ 10,000.00 |

| | Condition if Fund as of July 1, 1946 | Amount Available 1947 | Expended July 1, 1946–June 30, 1947 | Balance July 1, 1947 |
|---|---|---|---|---|
| Parks Division (*Continued*) | | | | |
| Account No. 8732-01 | | | | |
| Resurfacing Boulevards and Parkways: | | | | |
| Unexpended balance of 1946 appropriation | | $1,131,193.96 | | |
| Chapter 309, Acts of 1946 | | 1,000,000.00 | | |
| | | $2,131,193.96 | $1,363,149.40 | $768,044.56 |
| Account No. 9001 | | | | |
| Metropolitan Parks Trust Fund: | | | | |
| Receipts to July 1, 1946 | $ 42,385.86 | | | |
| Expended to June 30, 1946 | 41,821.82 | | | |
| | | $ 564.04 | – | $ 564.04 |
| Account No. 9002 | | | | |
| Edwin U. Curtis Memorial Trust Fund: | | | | |
| Receipts to July 1, 1946 | $ 2,478.87 | | | |
| Expended to June 30, 1946 | 672.59 | | | |
| | | $ 1,806.28 | | |
| Receipts, year ending June 30, 1947 | | 35.00 | | |
| | | $ 1,841.28 | – | $1,841.28 |
| Account No. 9003 | | | | |
| George R. Nutter Trust Fund: | | | | |
| Receipts to July 1, 1946 | $ 1,122.50 | | | |
| Expended to June 30, 1946 | 1.56 | | | |
| | | $ 1,120.94 | | |
| Receipts, year ending June 30, 1947 | | 17.50 | | |
| | | $ 1,138.44 | – | $ 1,138.44 |

## Sewerage Division

| | | | | |
|---|---|---|---|---|
| Account No. 8802 | | | | |
| Metropolitan District Sewerage Fund, North System Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $523,165.00 | | |
| Chapter 617, Acts of 1946 | | 84,635.00 | | |
| | | $607,800.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 15,993.88 | | |
| | | $623,793.88 | $613,622.02 | $10,171.86 |
| Account No. 8802-25 | | | | |
| Coal Handling Equipment, Deer Island: | | | | |
| Chapter 682, Acts of 1945 | $ 15,000.00 | | | |
| Expended to June 30, 1946 | 350.00 | | | |
| Title changed to Oil Burning Equipment, Deer Island by Chapter 309, Acts of 1946 | | $ 14,650.00 | – | $14,650.00 |
| Account No. 8802-26 | | | | |
| Door Openings, East Boston Pumping Station: | | | | |
| Chapter 682, Acts of 1945 | $ 3,000.00 | | | |
| Expended to June 30, 1946 | 350.00 | | | |
| | | $ 2,650.00 | $ 360.00 | $ 2,290.00 |
| Account No. 8802-27 | | | | |
| Pumping Unit, Reading: | | | | |
| Chapter 682, Acts of 1945 | $ 4,200.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 4,200.00 | – | $ 4,200.00 |
| Account No. 8802-29 | | | | |
| Chlorinating Equipment: | | | | |
| Chapter 617, Acts of 1946 | | $ 43,000.00 | $ 131.71 | $42,868.29 |
| Account No. 8802-30 | | | | |
| Pumping Unit, Deer Island: | | | | |
| Chapter 617, Acts of 1946 | | $ 85,000.00 | $ 13.86 | $84,986.14 |
| Account No. 8802-31 | | | | |
| Boilers, Deer Island: | | | | |
| Chapter 617, Acts of 1946 | | $ 69,500.00 | – | $69,500.00 |
| Account No. 8807 | | | | |
| Metropolitan District Sewerage Fund, South System Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $342,685.00 | | |
| Chapter 617, Acts of 1946 | | 61,680.00 | | |
| | | $404,365.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 10,708.60 | | |
| | | $415,073.60 | $384,591.17 | $30,482.43 |
| Account No. 8807-25 | | | | |
| New Pump, Ward Street Pumping Station: | | | | |
| Chapter 309, Acts of 1946 | | $ 40,000.00 | $ 577.79 | $39,422.21 |

| | *Condition of Fund as of July 1, 1946* | *Amount Available 1947* | *Expended July 1, 1946– June 30, 1947* | *Balance July 1, 1947* |
|---|---|---|---|---|
| Sewerage Division (*Continued*) | | | | |
| Account No. 8807-26 | | | | |
| Window Repairs, Ward Street Pumping Station: | | | | |
| Chapter 309, Acts of 1946 | | $ 7,500.00 | – | $ 7,500.00 |
| Account No. 8807-28 | | | | |
| Sewer Repairs, Dorchester: | | | | |
| Chapter 309, Acts of 1946 | | $ 86,000.00 | $ 30,153.62 | $55,846.38 |
| Account No. 8807-38 | | | | |
| Condensers, Quincy Pumping Station: | | | | |
| Chapter 309, Acts of 1946 | | $ 5,600.00 | – | $ 5,600.00 |
| Account No. 9101-01 | | | | |
| Aberjona Sewer: | | | | |
| Mass. State Project D-101, P.W.A. Docket Number Mass. 1098-R | | | | |
| Chapter 478, Acts of 1935 | $1,800,000.00 | | | |
| Receipt from Malden Electric Company | 694.00 | | | |
| Federal Grants | 1,267,568.87 | | | |
| | $3,068,262.87 | | | |
| Expended to June 30, 1946 | 2,889,730.88 | $178,531.99 | – | $178,531.99 |
| Account No. 9101-04 | | | | |
| Plans for Sewer System: | | | | |
| Chapter 433, Acts of 1937 | $270,000.00 | | | |
| Expended to June 30, 1946 | 269,012.15 | $ 987.85 | – | $ 987.85 |
| Account No. 9101-05 | | | | |
| Additional Sewers: | | | | |
| Mass. State Project D-201, P.W.A. Docket No. Mass. 1419 F | | | | |
| Chapter 459, Acts of 1938 | $2,500,000.00 | | | |
| Federal Grants | 1,873,295.11 | | | |
| | $4,373,295.11 | | | |
| Less amount transferred to Account No. 9101-06, Extension of Siphon, Chelsea Creek, Mass. State Project D-204, P.W.A. Docket No. Mass. 1574-F (Supplementary) | 348,566.57 | | | |
| | $4,024,728.54 | | | |
| Expended to June 30, 1946 | 4,024,728.54 | – | – | – |
| Account No. 9101-06 | | | | |
| Extension of Siphon, Chelsea Creek: | | | | |
| Mass. State Project D-204, P.W.A. Docket No. Mass. 1574-F (Supplementary). Transferred from Account No. 9101-05, Mass. State Project D-201, P.W.A. Docket No. Mass. 1419-F | $ 348,566.57 | | | |
| Federal Grants | 109,253.05 | | | |
| | $ 457,819.62 | | | |
| Expended to June 30, 1946 | 438,534.99 | $ 19,284.63 | $ 14,716.49 | $ 4,568.14 |
| Account No. 9101-07 | | | | |
| Siphon, Chelsea Creek: | | | | |
| Mass. State Project S-204, P.W.A. Docket No. Mass. 1574-F, Chapter 491, Acts of 1938 | $ 250,000.00 | | | |
| Federal Grants | 338,404.79 | | | |
| | $ 588,404.79 | | | |
| Expended to June 30, 1946 | 587,029.94 | $ 1,374.85 | – | $ 1,374.85 |

## Water Division

| | | | | |
|---|---|---|---|---|
| Account No. 8901-01 | | | | |
| Metropolitan Water Construction Fund: | | | | |
| General | $43,070,000 00 | | | |
| Receipts to June 30, 1946 | 343,941.70 | | | |
| | $43,413,941.70 | | | |
| Expended to June 30, 1946 | 43,363,482.36 | $ 50,459.34 | | |
| Receipts, year ending June 30, 1947 | | 1,536.73 | | |
| | | $ 51,996.07 | $ 37.02 cr. | $52,033.09 |

| | Condition of Fund as of July 1, 1946 | Amount Available 1947 | Expended July 1, 1946–June 30, 1947 | Balance July 1, 1947 |
|---|---|---|---|---|
| Water Division (*Continued*) | | | | |
| Account No. 8902 | | | | |
| Metropolitan District Water Fund, Water System Maintenance: | | | | |
| Chapter 309, Acts of 1946 | | $1,230,400.00 | | |
| Chapter 617, Acts of 1946 | | 224,615.00 | | |
| | | $1,455,015.00 | | |
| Balance brought forward from 1946 appropriation to cover 1946 expenditures on 1947 books | | 52,340.63 | | |
| | | $1,507,355.63 | $1,446,733.26 | $ 60,622.37 |
| Account No. 8902-22 | | | | |
| Repairs to Water Mains: | | | | |
| Chapter 309, Acts of 1946 | | $ 10,000.00 | $ 100.00 | $ 9,900.00 |
| Account No. 8902-24 | | | | |
| Assessments upon the Former Town of Dana: | | | | |
| Chapter 309, Acts of 1946 | | $ 400.00 | $ 280.60 | $ 119.40 |
| Account No. 8902-25 | | | | |
| Quabbin Reservoir Police, Personal Services: | | | | |
| Chapter 309, Acts of 1946 | | $ 28,735.00 | $ 28,193.31 | $ 541.69 |
| Account No. 8902-34 | | | | |
| Improvements, Supply Mains: | | | | |
| Balance of appropriations prior to July 1, 1946 | | $ 142,072.47 | | |
| Chapter 309, Acts of 1946 | | 300,000.00 | | |
| | | $ 442,072.47 | $ 71,949.75 | $370,122.72 |
| Account No. 8902-36 | | | | |
| Purchase of Pipe and Valve Stock: | | | | |
| Chapter 682, Acts of 1945 | $ 75,000.00 | | | |
| Expended to June 30, 1946 | 69.30 | | | |
| | | $ 74,930.70 | $ 74,930.70 | – |
| Account No. 8902-43 | | | | |
| Equipment Building, Weston Reservoir: | | | | |
| Chapter 309, Acts of 1946 | | $ 5,000.00 | $ 1,120.37 | $ 3,879.63 |
| Account No. 8902-44 | | | | |
| Equipment Building, Bear Hill Reservoir: | | | | |
| Chapter 309, Acts of 1946 | | $ 5,000.00 | – | $ 5,000.00 |
| Account No. 8902-45 | | | | |
| Crane Type Truck: | | | | |
| Chapter 617, Acts of 1946 | | $ 12,000.00 | – | $ 12,000.00 |
| Account No. 8902-47 | | | | |
| Roof Repairs, Wachusett Power Station: | | | | |
| Chapter 617, Acts of 1946 | | $ 10,000.00 | $ 29.08 | $ 9,970.92 |
| Account No. 9120-01 | | | | |
| Water Connections: | | | | |
| Chapter 543, Acts of 1943 | $250,000.00 | | | |
| Expended to June 30, 1946 | – | | | |
| | | $ 250,000.00 | $ 25,604.24 | $224,395.76 |

## Miscellaneous

| | | | | |
|---|---|---|---|---|
| Account No. 7207-900 | | | | |
| Unclaimed Wage Fund: | | | | |
| Receipts to July 1, 1946 | | $ 58.88 | | |
| Receipts, year ending June 30, 1947 | | – | | |
| | | $ 58.88 | – | $ 58.88 |
| Account No. 7208-900 | | | | |
| Unpaid Check Fund: | | | | |
| Receipts to July 1, 1946 | $ 2,751.55 | | | |
| Expended to June 30, 1946 | 214.32 | | | |
| | | $ 2,537.23 | | |
| Receipts, year ending June 30, 1947 | | – | | |
| | | $ 2,537.23 | – | $ 2,537.23 |

# RECEIPTS—JULY 1, 1946 TO JUNE 30, 1947

## Accounts Receivable

| *Account No.* | *Account Name* | *Amount* | |
|---|---|---|---|
| 8506– | Bunker Hill Monument: | | |
| 600 | Admissions, etc. | $ 3,319.90 | |
| 8602– | Metropolitan Parks Maintenance Fund: | | |
| 200 | Golf course fees | 38,150.71 | |
| 401 | Rents | 8,608.32 | |
| 403 | Telephone and lighting service | 860.09 | |
| 404 | Sale of materials | 45.25 | |
| 8603– | Metropolitan Parks Fund, Special: | | |
| 201 | Bath house fees | 39,044.15 | |
| 202 | Golf course fees | 35,210.40 | |
| 300 | Court fines | 1,622.50 | |
| 400 | Sales and rentals | 49,207.48 | |
| 600 | Miscellaneous | 3,386.38 | |
| 600 | Forfeited deposits | 150.00 | |
| 601 | Sale of land | 11,917.00 | |
| 8607– | Charles River Basin Maintenance Fund: | | |
| 500 | Receipts | 15,000.00 | |
| 8731– | Highway Fund, Maintenance of Boulevards: | | |
| 402 | Telephone receipts | 373.26 | |
| 403 | Lighting | 478.25 | |
| 404 | Sale of materials | 45.26 | |
| 8802– | Metropolitan District Sewerage Fund: North System Maintenance: | | |
| 402 | Rents | 4,304.16 | |
| 403 | Telephone and lighting service | 430.05 | |
| 404 | Sale of materials | 58.04 | |
| 8807– | Metropolitan District Sewerage Fund: South System Maintenance: | | |
| 402 | Rents | 4,304.15 | |
| 403 | Telephone and lighting service | 430.05 | |
| 404 | Sale of materials | 185.98 | |
| 405 | Miscellaneous sales | 1,544.00 | |
| 8901– | Metropolitan District Water Fund: General Water Construction: | | |
| 601 | Sale of land | 1,536.73 | |
| 8902– | Metropolitan District Water Fund: General Water Maintenance: | | |
| 402 | Rents | 8,608.32 | |
| 403 | Telephone and lighting service | 860.09 | |
| 404 | Reimbursement for services | 2,329.63 | |
| 405 | Sale of materials | 3,407.85 | |
| 406 | Miscellaneous sales | 704.64 | |
| 600 | Miscellaneous | 1,565.27 | |
| 9613– | Metropolitan Sewerage Loan: North System—Interest: | | |
| 900 | Forfeited deposits | 7.00 | |
| 9614– | Metropolitan Sewerage Loan: South System—Interest: | | |
| 900 | Forfeited deposits | 50.00 | |
| 9615– | Metropolitan Water Loan—Interest: | | |
| | Forfeited deposits | 103.00 | |
| 9840– | Metropolitan North Sewerage Sinking Fund: | | |
| 402 | Rents | 1,213.00 | |
| 9850– | Metropolitan South Sewerage Sinking Fund: | | |
| 402 | Rents | 144.00 | |
| 9860– | Metropolitan Water Sinking Funds: | | |
| 402 | Rents | 4,856.93 | |
| 403 | Sale of power | 78,617.25 | |
| 404 | Sale of water | 45,326.40 | |
| 405 | Other sales | 1,342.00 | |
| | | | $369,347.49 |

## Prior Year Refunds

| | | | |
|---|---|---|---|
| 8602–901 | Metropolitan Parks Maintenance Fund, General | $ 3,081.85 | |
| 8607–900 | Charles River Basin Maintenance Fund | 38.05 | |
| 8802–900 | Metropolitan District Sewerage Fund: North System Maintenance | 233.25 | |
| 8807–900 | Metropolitan District Sewerage Fund: South System Maintenance | 241.40 | |
| 8902–900 | Metropolitan Water Maintenance Fund | 417.24 | |
| | | | 4,011.79 |
| | | | $373,359.28 |

# CONDENSED REPORT OF THE PARKS DIVISION ENGINEERING DEPARTMENT FOR THE YEARS 1941–1946 INCLUSIVE

*Report of the Director of Park Engineering and Chief Park Engineer*

The following condensed report of work done under the direction and supervision of the engineering department of the Parks Division for the years 1941 to 1946 inclusive, is respectfully submitted:

All construction work and the general direction and supervision of all maintenance and repairs of parkways, boulevards, bridge, building and structures in the various parks sub-divisions, and the operation of the various drawbridges and locks are in charge of the engineering department.

*Organization* — The park engineering force has averaged as follows in the period covered by this report: one director of park engineering and chief park engineer, one associate civil engineer, four senior civil engineers, five assistant civil engineers, thirteen junior civil engineers, three general construction inspectors, one senior architectural draftsman, seventeen senior engineering aides, twelve junior engineering aides, one garage foreman, one motor repairman, one principal clerk, four stenographers, one superintendent of locks and drawbridges and fifty-nine lock and drawbridge assistants, mechanics, operators and helpers.

During the report period plans and specifications were prepared and construction supervised on a wide variety of construction and maintenance repairs which was performed by contract or invitation bid, as follows:

*Alewife Brook Parkway* — Sections of Alewife Brook in Somerville, Cambridge, Arlington and Belmont were dredged and the bridge over the Boston & Maine Railroad, Fitchburg Division, Cambridge, was painted.

*Bunker Hill Reservation* — The Lodge Building at Bunker Hill Monument was rewired and the cast steel fence around the monument grounds was repaired.

*Charles River Reservation* — The roadway of Harvard Bridge was repaired on several occasions and the bridge repainted.

The Cottage Farm Bridge and Longfellow Bridge were painted and repaired.

The draw span, steel lock gates and other facilities at the Charles River Dam were repaired and painted, the approaches repaved and other miscellaneous repairs were made.

New traffic signals were installed on Memorial Drive in Cambridge and Soldiers Field Road in the Brighton District of Boston.

Embankment Road from Charles Street to Back Street was resurfaced.

General repairs were made at the Fens Gate House and new gates, screens and rebuilt motors installed.

A baseball park was constructed on Memorial Drive near Magazine Beach.

Various sections of Memorial Drive were resurfaced, seal coated or repaired.

The construction of the extension of Memorial Drive from Ash Street to Fresh Pond Parkway was started in the summer of 1946 and now is well along toward completion. The Cambridge Boat Club clubhouse was moved to a new location at Gerry's Landing to make way for the extension of the Drive.

Other main roadways in the Charles River Division were repaired and patched to the extent possible under material and labor shortages with which the Division had to contend.

*Middlesex Fells Division* — Portions of Middlesex Fells Parkway, Mystic Valley Parkway, Lynn Fells Parkway and other main roads in the division were resurfaced, seal coated or patched where conditions were such that repairs were imperative. The traffic circle at the intersection of Middlesex Fells Parkway, Mystic Valley Parkway and Revere Beach Parkway was substantially enlarged and reconstructed. Repairs were made to the Wellington Bridge roadway and the steelwork of the bridge was repainted. The Mystic River Bridge in Medford was also repainted. Gravel sidewalks on Fellsway East, Malden and on Lynn Fells Parkway between Emerson Road and Vinton Road in Melrose were reconstructed with bituminous

and cement concrete. A concrete chamber was constructed near the WEEI Radio Station on Mystic Valley Parkway to improve drainage in that vicinity. The Lawrence Tower in Medford was repaired and painted.

*Revere Beach Reservation* — The Lynn Shore Reservation seawall was repaired on several occasions when damaged by severe storms. The Winthrop Shore Reservation seawall and roadway were repaired between Trident and Sea Foam Avenues and from Hawthorne Avenue to Beach Road. Emergency repairs were also made from Trident Avenue to Locust Street where long sections of the wall were destroyed by storms of hurricane force and extensive damage done to adjacent property. Other repairs were made to the wall and roadway from Coral Avenue to Beach Road. Winthrop Parkway was reconstructed from Eliot Circle to Leverett Avenue, Revere, and repairs made to shore protection from Broad Sound to Sewall Avenues, Revere and Winthrop. An access road was constructed from Revere Beach Parkway to the General Electric supercharger manufacturing plant in Everett as a war emergency measure, the Federal Government paying for approximately one-half the cost. The draw span of the Malden River Bridge was repaired. The Winthrop Avenue Bridge over the Eastern Division, Boston and Maine Railroad was painted. Shelters and fences along the Boulevard were repaired and painted and the sanitary sewer in the Boulevard was reconstructed. Portions of all the main roads in the division were resurfaced or repaired where such work could no longer be deferred.

*Blue Hills Division* — Old Colony Parkway in Quincy was reconstructed from the Neponset Bridge to the N.Y., N.H. & H. R.R. bridge. Other sections of the parkway were resurfaced, seal coated or patched where such repairs were required. The Mount Vernon Street bridge was painted and the reinforced concrete slab of track number one on the Pope's Hill bridge was reconstructed. The bathing beach at Malibu Beach Bath House was sanded and regraded in 1943 and additional sand was placed in 1945. The draw spans of the Neponset and Dorchester Bay bridges were repaired and repainted. Traffic signals were installed at Old Colony Parkway and Victory Road.

The driveway of Quincy Shore Reservation was resurfaced from Beach Street to Webster Street and between Atlantic Bridge and East Squantum Street. Repairs to the seawall were made between Rice Road and Fenno Street and traffic signals were installed at Squanto Road. The approaches to the Black's Creek bridge were repaved and the dam repaired.

Furnace Brook Parkway was resurfaced from Adams Street to Hancock Street and 2000 feet westerly from George Street in Quincy. Cement concrete sidewalks were installed from Copeland Street to Willard Street.

Chain link fencing has been installed along portions of the bank of the Neponset River in Hyde Park and Mattapan. A bituminous concrete sidewalk has been constructed on East Milton Street, Neponset River Parkway.

The outbound roadway of Veterans of Foreign Wars Parkway was reconstructed from the West Roxbury Parkway traffic circle to Spring Street. The traffic circle was also relandscaped.

A traffic circle at the intersection of West Roxbury Parkway and Grove Street, Brookline, has been constructed. Surface water drainage works were installed on West Roxbury Parkway near the Veterans of Foreign Wars Parkway.

Repairs were made to Hammond Pond Parkway from the Horace James Traffic Circle to Boylston Street, Brookline and Newton.

*Nantasket Beach Reservation* — A bituminous concrete seal coat was applied to the south parking area and repairs were made to the bath house roof. A section of the sea wall which was destroyed by severe storms was reconstructed and repairs were made to the sea wall at other points. The hulk of the schooner "Nancy" was finally removed from the beach when an appropriation for this purpose was made. Two new toilet rooms were installed on the first floor of the Hotel Nantasket.

Chapter 689 of the Acts of 1945 provides for a six year program of $9,000,000 to be spent for construction and reconstruction of parkways, bridges and other facilities. The Commission has had to expend funds made available to the present

under this program principally for reconstruction due to the severe deterioration of our roadways during the war years when materials and manpower were not available.

Chapter 690 of the Acts of 1945 authorized the transfer to the Commission of the Cottage Farm, Longfellow and Prison Point bridges for care and control. These are the last of the bridges over the Charles River formerly under jurisdiction of the Boston Cambridge Bridge Commission.

Six hundred and forty-three permits were issued for driveway entrances and other purposes during the period covered by this report. The engineering department furnished supervision over all work covered by the permits and reported all building operations to the Commission where violations of restrictions were involved.

The United States Coast Guard in the Boston Harbor area furnished ice breakers to clear the channels in the Charles River Basin below Longfellow Bridge and in the Broad and Lechmere Canals during the war years when the Commission was unable to get contractors to do the work. During the winter of 1946–1947 the Commission was again able to get bidders for ice breaking when the Coast Guard had to discontinue the assistance so gratefully accepted from them during the war.

Statistical tables relative to the Parks Division are attached.

## Table I

*The following is a record of the traffic through the locks and drawbridges during the years 1941, 1942, 1943, 1944, 1945 and 1946.*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| *Charles River Dam, Lock and Drawbridge* | | | | | | |
| Number of openings of highway drawbridge | 2,020 | 993 | 387 | 393 | 976 | 1,899 |
| Number of openings of lock | 4,305 | 1,529 | 525 | 604 | 1,841 | 3,556 |
| Number of vessels | 1,999 | 1,067 | 419 | 423 | 791 | 1,804 |
| Number of small boats | 8,246 | 1,352 | 412 | 478 | 2,964 | 6,148 |
| Sand (Tons) | 152,813 | 42,188 | 3,875 | 8,685 | 2,850 | 68,662 |
| Gravel (Tons) | 79,915 | 15,588 | 4,005 | – | 700 | 29,772 |
| Oil (Gallons) | 39,640,750 | 30,649,842 | 10,163,000 | 12,986,000 | 33,976,850 | 53,974,762 |
| Lumber (feet B.M.) | – | 51,200 | – | – | – | – |
| Coal (Tons) | 675 | 21,600 | – | – | – | 30 |
| Coal Tar (Barrels) | – | 600 | – | – | – | – |
| Lumber (Feet) | 1,251,835 | – | – | – | – | – |
| Granite (Tons) | 850 | – | – | – | – | – |
| Asphalt (Tons) | 7,120 | – | – | – | – | – |
| Stone (Tons) | 7,610 | – | 60 | – | – | – |
| Coal Tar (Gallons) | – | – | 600,000 | – | 2,900 | 583,000 |
| Machinery (Tons) | – | – | 1,800 | – | – | – |
| Piles | – | – | – | – | 60 | – |
| *Cradock Bridge Lock* | | | | | | |
| Number of openings | 73 | 55 | 20 | 35 | 21 | 40 |
| Number of boats through lock | 77 | 83 | 20 | 44 | 22 | 40 |
| Number of boats over rolls | 54 | 55 | 44 | 26 | 14 | – |
| *Dorchester Bay Drawbridge* | | | | | | |
| Number of openings | 1,071 | 1,681 | 2,814 | 804 | 735 | 1,343 |
| Number of vessels | 1,287 | 1,978 | 3,059 | 1,224 | 941 | 239 |
| *General Edwards Drawbridge* | | | | | | |
| Number of openings | 510 | 472 | 457 | 526 | 503 | 503 |
| Number of vessels | 774 | 662 | 715 | 785 | 739 | 739 |
| *Malden River Drawbridge* | | | | | | |
| Number of openings | 362 | 246 | 85 | 135 | 108 | 112 |
| Number of vessels | 742 | 458 | 159 | 269 | 177 | 200 |
| *Mystic River Drawbridge* | | | | | | |
| Number of openings | 10 | 32 | 2 | 2 | 4 | 7 |
| Number of vessels | 11 | 35 | 2 | 2 | 4 | 7 |
| Test Openings | – | – | 2 | 6 | – | – |
| *Neponset River Drawbridge* | | | | | | |
| Number of openings | 294 | 139 | 45 | 95 | 97 | 133 |
| Number of vessels | 315 | 184 | 58 | 121 | 114 | 155 |
| *Wellington Bridge* | | | | | | |
| Number of openings | 12 | 31 | 4 | 6 | 8 | 43 |
| Number of vessels | 13 | 47 | 4 | 8 | 13 | 92 |
| Number of rafts | – | 2 | – | – | – | – |

## Table 4

*Length of Roads and Bridle Paths in Reservations not Open to Motor Vehicles*

| | Miles |
|---|---|
| Blue Hills Reservation | 79.08 |
| Middlesex Fells Reservation | 27.25 |
| Stony Brook Reservation | 24.60 |
| Beaver Brook Reservation | .22 |
| Charles River Reservation | 4.39 |
| Hammond Pond Parkway | 2.00 |
| Breakheart Reservation | 7.00 |
| | 144.54 |

## Table 5

*Electric Street Lights on Parkways and Reservations*

| | |
|---|---|
| Alewife Brook Parkway (11-600 c.p., 37-800, 1-1500 c.p.) | 49 |
| Birmingham Parkway (9-800 c.p., 12-1000 c.p., 6-1500 c.p.) | 27 |
| Blue Hills Parkway (600 c.p.) | 57 |
| Blue Hills Reservation, Green Street (100 c.p.) | 6 |
| Blue Hills Reservation, Hillside Street (80 c.p.) | 14 |
| Breakheart Reservation Entrance (2-800 c.p.) (1-100 c.p.) | 3 |
| Charles River Dam Reservation (1500 c.p.) | 9 |
| Charles River Dam Roadway (1000 c.p.) | 20 |
| Charles River Reservation, Boston Embankment (250 c.p.) | 80 |
| Charles River Reservation, Embankment Road (2-100 c.p.) 17-600 c.p. | 19 |
| Charles River Reservation, North Beacon Street (4-1500 c.p., 9-1000 c.p) | 13 |
| Charles River Reservation, Soldier's Field Road (48-1000 c.p., 47-1500 c.p.) | 95 |
| Cottage Farm Bridge (250 c.p.) | 46 |
| Dorchester Bay Bridge (1500 c.p.) | 8 |
| Fresh Pond Parkway (250 c.p.) | 15 |
| Furnace Brook Parkway (600 c.p.) | 58 |
| General Edwards Bridge (800 c.p.) | 24 |
| Harvard Bridge (600 c.p.) | 24 |
| Harvard Avenue Bridge (600 c.p.) | 4 |
| High Street Bridge (600 c.p.) | 6 |
| Larz Anderson Bridge (100 c.p.) | 24 |
| Longfellow Bridge (16-100 c.p.., 39-600 c.p.) | 55 |
| Lynn Fells Parkway (600 c.p.) | 28 |
| Lynn Shore Reservation (44-600 c.p., 4-1000 c.p.) | 48 |
| Lynnway (800 c.p.) | 17 |
| Memorial Drive (200-250 c.p., 32-600 c.p., 30-800 c.p.) | 262 |
| Middlesex Fells Parkway (230-600 c.p., 25-800 c.p., 7-1500 c.p.) | 262 |
| Middlesex Fells Reservation (2-80 c.p.) (32-250 c.p. (27-600 c.p.) (1-800 c.p.) | 62 |
| Mystic Valley Parkway (1-250 c.p., 77-600 c.p., 87-800 c.p.) | 165 |
| Nahant Beach Parkway (600 c.p.) | 16 |
| Nantasket Beach Reservation (1000 c.p.) | 50 |
| Neponset Bridge (800 c.p.) | 16 |
| Neponset Valley Parkway (600 c.p.) | 22 |
| Old Colony Parkway (2-80 c.p., 67-800 c.p.., 20-1000 c.p., 23-1500 c.p.) | 112 |
| Prison Point Bridge (6-250 c.p., 5-1000 c.p.) | 11 |
| Quannapowitt Parkway (800 c.p.) | 3 |
| Quincy Shore Reservation (600 c.p.) | 57 |
| Revere Beach Parkway (172-600 c.p., 26-800 c.p.) | 198 |
| Revere Beach Reservation (1-250 c.p., 107-1000 c.p.) | 108 |
| River Street Bridge (250 c.p.) | 8 |
| Weeks Bridge (100 c.p.) | 24 |
| Wellington Bridge (800 c.p.) | 22 |
| Western Avenue Bridge (250 c.p.) | 8 |

| | |
|---|---|
| West Roxbury Parkway (3-80 c.p.) (22-600 c.p.) (18-800 c.p.) (12-1000 c.p.) | 55 |
| Winthrop Parkway (14-250 c.p., 8-600 c.p.) | 22 |
| Winthrop Shore Reservation (600 c.p.) | 23 |
| Woburn Parkway (600 c.p.) | 4 |
| | 2,259 |

FOOTNOTES:

Three 600 c.p., June 1 to December 1.
Twenty-nine 600 c.p., all year to 1 A.M.
Thirty-three 600 c.p., all year to 1 A.M., one 800 c.p., all year until 1 A.M.
Four June 1 to December 1.
Thirteen, June 1 to October 31, seventeen in Summer only.
Twenty-five 1000 c.p., all night May 1, to October 31.

## TABLE 6

### *Miles of Seashore*

| | MILES |
|---|---|
| Lynn Shore | 1.50 |
| Nahant Beach | 2.93 |
| Nantasket Beach | 1.02 |
| Quincy Shore | 2.19 |
| Revere Beach | 2.74 |
| Winthrop Shore | 1.71 |
| | 12.09 |

### *Length of Sea Walls*

| | MILES |
|---|---|
| Lynn Shore | 1.30 |
| Nahant Beach Parkway, north of Wilson Road | .35 |
| Nantasket Beach Reservation | 1.02 |
| Quincy Shore Reservation, shore protection south of Webster Street | 1.08 |
| Quincy Shore Reservation, southerly end | .15 |
| Revere Beach at Eliot Circle | .15 |
| Revere Beach at Northern Circle | .08 |
| Revere Beach, shore protection, south of Northern Circle | .28 |
| Revere Beach, shore protection, bathhouse shelter to Revere Street shelter | .29 |
| Winthrop Parkway, Revere and Winthrop, Broad Sound Avenue to Sewall Avenue | .52 |
| Winthrop Shore, bridge to Great Head | 1.04 |
| Winthrop Shore, bridge to Grover's Cliff | .23 |
| | 6.49 |

### *Miles of River Bank*

| | MILES |
|---|---|
| Alewife Brook | 4.50 |
| Charles River | 33.97 |
| Mystic River | 8.41 |
| Neponset River | 15.86 |
| | 62.74 |

## TABLE 7

### *Bridges*

| | |
|---|---|
| Drawbridges | 7 |
| Footbridges | 16 |
| Reinforced concrete bridges | 25 |
| Steel bridges | 22* |
| Stone masonry bridges | 1 |
| Wooden bridges | 5 |
| | 76 |

*Includes Memorial Drive Overpass.

*Culverts*

Reinforced concrete and other masonry culverts . . . . . 62

TABLE 8

Beaver Brook Reservation, small wooden dams . . . . . 2
Blue Hills Parkway, small wooden dam at Canton Avenue Circle . . 1
Blue Hills Reservation, small wooden dams at St. Moritz . . . 2
Blue Hills Reservation, small concrete dam at Ponkapoag Pond . . 1
Breakheart Reservation, small concrete dam . . . . . 2
Charles River Reservation, wooden dam at Watertown, 220 feet in length 1
Charles River Reservation, Charles River Basin, tidal dam 1,200 feet in length . . . . . 1
Charles River Reservation, small stone dam in branch below Washington Street, Newton Lower Falls . . . . . 1
Charles River Reservation, reinforced concrete dam at Washington Street, Newton Lower Falls, 140 feet in length . . . . . 1
Charles River Reservation, stone masonry dam with stop planks, at Moody Street Bridge, about 170 feet in length . . . . . 1
Furnace Brook Parkway, reinforced concrete dam upstream from Black's Creek Bridge . . . . . 1
Hemlock Gorge Reservation, small stone masonry dam with stop planks in gorge . . . . . 1
Hemlock Gorge Reservation, small reinforced concrete dam on east branch of river, Newton Upper Falls . . . . . 1
Hemlock Gorge Reservation, reinforced concrete dam in Charles River at Boylston Street, Newton Upper Falls, 90 feet in length . . . 1
Hemlock Gorge Reservation, small concrete dam at Reservoir Street . 1
Mystic River Reservation, reinforced concrete tidal dam at Cradock Bridge, 100 feet in length, weirs 400 feet in length . . . 1

*Lock Gates, Sluice Gates and Tide Gates* 19

Charles River Reservation, Charles River Basin Tidal Dam, 6 lock gates, 13 sluice gates, 43 tide gates.
Mystic River Reservation, Cradock Bridge Tidal Dam, 2 lock gates, 4 sluice gates, 8 tide gates.
Quincy Shore Reservation, 8 tide gates.
Old Colony Parkway, Tenean Street, 1 tide gate.
Mystic Valley Parkway, 1200 feet west of Fellsway, 1 tide gate.
Mystic Valley Parkway, 3000 feet west of Fellsway, 1 tide gate.

TABLE 2. — *Metropolitan Park System — Area of Reservations and Parkways — December 31, 1946.*

| | | (Reservations Acres) | | | | | | | | | | | | | | | | (Parkways Acres) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Beaver Brook* | *Blue Hills* | *Breakheart* | *Bunker Hill* | *Charles River* | *Hemlock Gorge* | *King's Beach and Lynn Shore* | *Middlesex Fells* | *Mystic River* | *Nantasket Beach* | *Neponset River* | *Quincy Shore* | *Revere Beach* | *Stony Brook* | *Winthrop Shore* | *Total Acres* | *Alewife Brook* | *Blue Hills* | *Veterans of Foreign Wars* | *Dedham* | *Fresh Pond* | *Furnace Brook* | *Hammond Pond* | *Lynn Fells* | *Lynnway* | *Middlesex Fells* | *Mystic Valley* | *Nahant Beach* | *Neponset River* | *Old Colony* | *Quannapowitt* | *Revere Beach* | *West Roxbury* | *Winthrop* | *Woburn* | *Total Acres* | *Grand Total Reservations and Parkways (Acres)* | |
| | *Cities* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Boston | – | – | – | 6.05 | 204.14 | – | – | – | – | – | 145.57 | – | – | 449.62 | – | 805.38 | – | .20 | 49.80 | 21.98 | – | – | – | – | – | – | – | – | 28.80* | 59.14 | – | – | 77.42 | – | – | 237.34 | 1,042.72 | 1 |
| 2 | Cambridge | – | – | – | – | 225.34 | – | – | – | – | – | – | – | – | – | – | 225.34 | 86.08 | – | – | – | 12.40 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 98.48 | 323.82 | 2 |
| 3 | Chelsea | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 21.40 | – | – | – | 21.40 | 21.40 | 3 |
| 4 | Everett | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 31.34 | – | – | – | 31.34 | 31.34 | 4 |
| 5 | Lynn | – | – | – | – | – | – | 19.59 | – | – | – | – | – | – | – | – | 19.59 | – | – | – | – | – | – | – | .93 | – | – | .32 | – | – | – | – | – | – | – | 1.25 | 20.84 | 5 |
| 6 | Malden | – | – | – | – | – | – | – | 59.53 | – | – | – | – | – | – | – | 59.53 | – | – | – | – | – | – | – | – | 23.58 | – | – | – | – | – | – | – | – | – | 23.58 | 83.11 | 6 |
| 7 | Medford | – | – | – | – | – | – | – | 957.87 | 42.32 | – | – | – | – | – | – | 1,000.19 | – | – | – | – | – | – | – | – | 45.01 | 277.23 | – | – | – | – | 8.10 | – | – | – | 330.34 | 1,330.53 | 7 |
| 8 | Melrose | – | – | – | – | – | – | – | 180.19 | – | – | – | – | – | – | – | 180.19 | – | – | – | – | – | – | 14.28 | – | – | – | – | – | – | – | – | – | – | – | 14.28 | 194.47 | 8 |
| 9 | Newton | – | – | – | – | 187.63 | 4.24 | – | – | – | – | – | – | – | – | – | 191.87 | – | – | – | – | – | 117.46 | – | – | – | – | – | – | – | – | – | – | – | – | 117.46 | 309.33 | 9 |
| 10 | Quincy | – | 2,562.56 | – | – | – | – | – | – | – | – | – | 40.75 | – | – | – | 2,603.31 | – | – | – | – | – | 101.12 | – | – | – | – | – | – | 2.67 | – | – | – | – | – | 103.79 | 2,707.10 | 10 |
| 11 | Revere | – | – | – | – | – | – | – | – | – | – | – | – | 64.31 | – | – | 64.31 | – | – | – | – | – | – | – | 7.72 | – | – | – | – | – | – | 67.22 | – | 8.61 | – | 83.55 | 147.86 | 11 |
| 12 | Somerville | – | – | – | – | – | – | – | – | 5.91 | – | – | – | – | – | – | 5.91 | 5.36 | – | – | – | – | – | – | – | 11.83 | 4.95 | – | – | – | – | – | – | – | – | 22.14 | 28.05 | 12 |
| 13 | Waltham | 42.77 | – | – | – | 38.71 | – | – | – | – | – | – | – | – | – | – | 81.48 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 81.48 | 13 |
| 14 | Woburn | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 22.63 | 22.63 | 22.63 | 14 |
| | *Towns* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Arlington | – | – | – | – | – | – | – | – | 7.83 | – | – | – | – | – | – | 7.83 | 26.07 | – | – | – | – | – | – | – | – | 17.35 | – | – | – | – | – | – | – | – | 43.42 | 51.25 | 15 |
| 16 | Belmont | 15.55 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 15.55 | 20.43 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 20.43 | 35.98 | 16 |
| 17 | Braintree | – | 69.75 | – | – | – | – | – | – | – | – | – | – | – | – | – | 69.75 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 69.75 | 17 |
| 18 | Brookline | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 3.03 | – | – | – | 75.03 | – | – | – | – | – | – | – | – | 14.82 | – | – | 92.88 | 92.88 | 18 |
| 19 | Canton | – | 834.86 | – | – | – | – | – | – | – | – | 264.26 | – | – | – | – | 1,099.12 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1,099.12 | 19 |
| 20 | Dedham | – | – | – | – | 6.51 | – | – | – | – | – | 234.54 | – | – | – | – | 241.05 | – | – | – | 15.16 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 15.16 | 256.21 | 20 |
| 21 | Dover | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 21 |
| 22 | Hingham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 22 |
| 23 | Hull | – | – | – | – | – | – | – | – | – | 25.59 | – | – | – | – | – | 25.59 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 25.59 | 23 |
| 24 | Milton | – | 1,556.59 | – | – | – | – | – | – | – | – | 269.10 | – | – | – | – | 1,825.69 | – | 83.31 | – | – | – | – | – | – | – | – | – | 51.44 | – | – | – | – | – | – | 134.75 | 1,960.44 | 24 |
| 25 | Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 66.22† | – | – | – | – | – | – | 66.22 | 66.22 | 25 |
| 26 | Needham | – | – | – | – | – | 14.24 | – | – | – | – | – | – | – | – | – | 14.24 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 14.24 | 26 |
| | (Randolph) | – | 906.75 | – | – | – | – | – | – | – | – | – | – | – | – | – | 906.75 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 906.75 | |
| 27 | Saugus | – | – | 532.05 | – | – | – | – | – | – | – | – | – | – | – | – | 532.05 | – | – | – | – | – | – | 25.35 | – | – | – | – | – | – | – | – | – | – | – | 25.35 | 557.40 | 27 |
| 28 | Stoneham | – | – | – | – | – | – | – | 705.41 | – | – | – | – | – | – | – | 705.41 | – | – | – | – | – | – | .15 | – | – | – | – | – | – | – | – | – | – | – | .15 | 705.56 | 28 |
| 29 | Swampscott | – | – | – | – | – | – | 3.10 | – | – | – | – | – | – | – | – | 3.10 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 3.10 | 29 |
| 30 | Wakefield | – | – | 87.48 | – | – | – | – | – | – | – | – | – | – | – | – | 87.48 | – | – | – | – | – | – | – | – | – | – | – | – | – | 15.54 | – | – | – | – | 15.54 | 103.02 | 30 |
| 31 | Watertown | – | – | – | – | 80.73 | – | – | – | – | – | – | – | – | – | – | 80.73 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 80.73 | 31 |
| 32 | Wellesley | – | – | – | – | 66.07 | 4.58 | – | – | – | – | – | – | – | – | – | 70.65 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 70.65 | 32 |
| 33 | Weston | – | – | – | – | 153.47 | – | – | – | – | – | – | – | – | – | – | 153.47 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 153.47 | 33 |
| 34 | Westwood | – | – | – | – | – | – | – | – | – | – | 6.57 | – | – | – | – | 6.57 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 6.57 | 34 |
| 35 | Weymouth | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 35 |
| 36 | Winchester | – | – | – | – | – | – | – | 261.93 | – | – | – | – | – | – | – | 261.93 | – | – | – | – | – | – | – | – | – | 38.37 | – | – | – | – | – | – | – | .60 | 38.97 | 300.90 | 36 |
| 37 | Winthrop | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 16.83 | 16.83 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .13 | – | .13 | 16.96 | 37 |
| | | 58.32 | 5,930.51 | 619.53 | 6.05 | 962.60 | 23.06 | 22.69 | 2,164.93 | 56.06 | 25.59 | 920.04 | 40.75 | 64.31 | 449.62 | 16.83 | 11,360.89 | 137.94 | 83.51 | 52.83 | 37.14 | 12.40 | 101.12 | 192.49 | 39.78 | 8.65 | 80.42 | 337.90 | 66.54 | 80.24 | 61.81 | 15.54 | 128.06 | 92.24 | 8.74 | 23.23 | 1,560.58 | 12,921.47 | |

* Includes East Milton Street from Wolcott Square to Paul's Bridge.

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TABLE 3. — *Metropolitan Park System — Mileage of Roadways — December 31, 1946.*

| | | Alewife Brook Parkway | Blue Hills Parkway | | Blue Hills Res. | Veterans of Foreign Wars Parkway | Charles River Res. | | Dedham Parkway | East Milton Street | | Fresh Pond Parkway | Furnace Brook Parkway | Hammond Pond Parkway | Lynn Fells Parkway | Lynn Shore Res. | Lynnway | Memorial Drive | | Middlesex Fells Parkway | | Middlesex Fells Res. | | Mystic Valley Parkway | | Nahant Beach Parkway | Nantasket Beach Res. | Neponset River Parkway | Old Colony Boulevard | | Quannapowitt Parkway | Quincy Shore Res. | Revere Beach Parkway | | Revere Beach Res. | Stony Brook Res. | West Roxbury Parkway | Winthrop Parkway | Winthrop Shore Res. | Woburn Parkway | Total Miles | | Grand Total Miles | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Double | Single | | Double | Double | Single | | Double | Single | | | | | | | Double | Single | Double | Single | Double | Single | Double | Single | | | | Double | Single | | | Double | Single | | | | | | | Double Roadway | Single Roadway | | |
| | *Cities* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Boston | – | – | .02 | – | 2.44 | .70 | 5.01 | .49 | .21 | .30 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .52 | 1.44 | 2.03 | – | – | – | – | 3.57 | 2.35 | – | – | – | 4.79 | 14.91 | 24.49 | 1 |
| 2 | Cambridge | 1.31 | – | – | – | – | – | .13 | – | – | – | .52 | – | – | – | – | – | 1.14 | 2.95 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.14 | 4.91 | 7.19 | 2 |
| 3 | Chelsea | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .32 | .53 | – | – | – | – | – | .32 | .53 | 1.17 | 3 |
| 4 | Everett | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .64 | 1.21 | – | – | – | – | – | .64 | 1.21 | 2.49 | 4 |
| 5 | Lynn | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.04 | .12 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.16 | 1.16 | 5 |
| 6 | Malden | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.02 | .70 | – | .74 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.02 | 1.44 | 3.48 | 6 |
| 7 | Medford | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2.65 | .22 | .70 | 3.60 | .96 | 3.32 | – | – | – | – | – | – | – | .47 | – | – | – | – | – | – | 4.31 | 7.61 | 16.23 | 7 |
| 8 | Melrose | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.90 | – | – | – | – | – | – | – | 1.04 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2.94 | 2.94 | 8 |
| 9 | Newton | – | – | – | – | – | – | 2.67 | – | – | – | – | – | 1.14 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 3.81 | 3.81 | 9 |
| 10 | Quincy | – | – | – | 5.06 | – | – | – | – | – | – | – | 3.37 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .31 | – | 2.44 | – | – | – | – | – | – | – | 11.18 | 11.18 | 10 |
| 11 | Revere | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .57 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .53 | 2.21 | 2.70 | – | – | .89 | – | – | .53 | 6.37 | 7.43 | 11 |
| 12 | Somerville | .93 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .34 | .48 | – | – | – | .38 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .34 | 1.79 | 2.47 | 12 |
| 13 | Waltham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 13 |
| 14 | Woburn | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.31 | – | 1.31 | 1.31 | 14 |
| | *Towns* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Arlington | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.46 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.46 | 1.46 | 15 |
| 16 | Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 16 |
| 17 | Braintree | – | – | – | .39 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .39 | .39 | 17 |
| 18 | Brookline | – | – | – | – | .27 | – | – | – | – | – | – | – | .78 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.35 | – | – | .27 | 2.13 | 2.67 | 18 |
| 19 | Canton | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 19 |
| 20 | Dedham | – | – | – | – | – | – | – | .49 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .49 | .49 | 20 |
| 21 | Dover | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 21 |
| 22 | Hingham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 22 |
| 23 | Hull | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .71 | – | – | – | – | – | – | – | – | – | – | – | .71 | .71 | 23 |
| 24 | Milton | – | 1.41 | 1.46 | 5.26 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .53 | – | – | – | – | – | – | – | – | – | 1.41 | 7.25 | 10.07 | 24 |
| 25 | Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.94 | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.94 | 1.94 | 25 |
| 26 | Needham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 26 |
| 27 | Saugus | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.71 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.71 | 1.71 | 27 |
| 28 | Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .02 | – | – | – | – | – | .27 | 5.85 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .27 | 5.87 | 6.41 | 28 |
| 29 | Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .08 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .08 | .08 | 29 |
| 30 | Wakefield | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .68 | – | – | – | – | – | – | – | – | .68 | .68 | 30 |
| 31 | Watertown | – | – | – | – | – | – | 1.74 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.74 | 1.74 | 31 |
| 32 | Wellesley | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 32 |
| 33 | Weston | – | – | – | – | – | – | .89 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .89 | .89 | 33 |
| 34 | Westwood | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 34 |
| 35 | Weymouth | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 35 |
| 36 | Winchester | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.31 | – | 1.81 | – | – | – | – | – | – | – | – | – | – | – | – | – | .07 | – | 3.19 | 3.19 | 36 |
| 37 | Winthrop | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | .20 | 1.07 | – | 1.27 | 1.27 | 37 |
| | Single Roadway | 2.24 | – | 1.48 | 10.71 | – | – | 10.44 | .98 | – | .30 | .52 | 3.37 | 1.92 | 3.63 | 1.12 | .69 | – | 2.95 | – | 1.40 | – | 12.54 | – | 6.97 | 1.94 | .71 | 1.05 | – | 2.34 | .68 | 2.44 | – | 4.42 | 2.70 | 3.57 | 3.70 | 1.09 | 1.07 | 1.38 | – | 88.97 | 119.05 | |
| | Double Roadway | – | 1.41 | – | – | 2.71 | .70 | – | – | .21 | – | – | – | – | – | – | – | 1.14 | – | 4.01 | – | .97 | – | .96 | – | – | – | – | 1.44 | – | – | – | 1.49 | – | – | – | – | – | – | – | 15.04 | – | | |

*Equivalent in miles of single roadway—30.08 miles.

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# ANNUAL REPORT

OF THE

# SUPERINTENDENT

OF THE

# METROPOLITAN DISTRICT POLICE

FOR THE YEARS

## 1941, 1942, 1943, 1944, 1945 and 1946

| *Personnel:* December 31 | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Superintendent | 1 | 1 | 1 | 1 | 1 | 1 |
| Deputy Superintendent | 1 | 1 | 1 | 1 | 1 | 1 |
| Captains | 6 | 6 | 6 | 5 | 6 | 6 |
| Lieutenants | 7 | 7 | 7 | 7 | 9 | 11 |
| Sergeants | 25 | 24 | 23 | 24 | 22 | 25 |
| Patrolmen | 215 | 194 | 185 | 179 | 193 | 225 |
| *Personnel on Military Leave:* | | | | | | |
| Sergeants | – | 1 | 2 | 1 | 1 | 1 |
| Patrolmen | – | 21 | 30 | 32 | 17 | 2 |
| *Permanent Vacancies:* | | | | | | |
| Captains | – | – | – | 1 | – | – |
| Sergeants | – | – | – | – | 2 | – |
| Patrolmen | – | – | – | 4 | 3 | – |

During the years 1942 and 1944, it was found necessary to prefer charges against one officer and discharge another during his probationary period, in 1945 it was found necessary to prefer charges against one officer and in 1946 it was necessary to prefer charges against four patrolmen.

In addition to the regular force, twelve call officers and one temporary policewoman were employed during the summer months of 1941.

*The following officers were commended in General Orders by the Commission:*

| | | |
|---|---|---|
| *Patrolman* | Frederick D. Phillimore | 1941 |
| " | William L. Gibson | " |
| " | James S. Hanlon | " |
| " | John A. Kane | " |
| *Sergeant* | John J. Gannon | 1942 |
| *Patrolman* | Matthew A. Fitzpatrick | " |
| " | John R. Holden | " |
| " | Patrick J. McDermott | " |
| " | John A. Murphy | " |
| " | Francis L. Barry | " |
| " | Guy R. Sanderson | " |
| " | John J. McLean | " |
| " | William J. Cronin | 1943 |
| " | Joseph G. Lentini | " |
| " | William J. Hallion | 1944 |
| " | Patrick F. Doherty | " |

Valuation of lost and stolen property recovered by the Department and returned to owners during the years 1941 to 1946 inclusive:

| | |
|---|---|
| Headquarters | $ 11,535.00 |
| Blue Hills Division | 105,764.40 |
| Middlesex Fells Division | 77,498.00 |
| C. R. Lower Basin Division | 109,978.29 |
| C. R. Upper Division | 82,435.35 |
| Revere Beach Division | 73,933.65 |
| Nantasket Beach Division | 10,143.61 |
| Quabbin Division | 4,609.00 |
| *Total* | $475,897.30 |

The following is the number of days lost by members of the Department, not including days off or annual vacations:

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Headquarters | 14 | 14 | 35 | 60 | 80 | 40 |
| Blue Hills Division | 436 | 204 | 242 | 406 | 279 | 305 |
| Middlesex Fells Division | 319 | 490 | 735 | 783 | 1,038 | 760 |
| C. R. Lower Basin Division | 441 | 143 | 157 | 402 | 560 | 574 |
| C. R. Upper Division | 383 | 916 | 968 | 489 | 553 | 269 |
| Revere Beach Division | 596 | 425 | 610 | 372 | 595 | 777 |
| Nantasket Beach Division | 75 | 89 | 97 | 285 | 91 | 48 |
| Quabbin Division | – | 261 | 98 | 111 | 63 | 115 |
| *Totals* | 2,264 | 2,542 | 2,942 | 2,908 | 3,259 | 2,288 |

The following is the number of hours extra duty performed by members of the Department without compensation, not including court work:

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Headquarters | 350 | 350 | 200 | 400 | 576 | 150 |
| Blue Hills Division | 1,075 | 191 | 298 | 402 | 80 | 100 |
| Middlesex Fells Division | 1,068 | 669 | 429 | 332 | 424 | 74 |
| C. R. Lower Basin Division | 1,058 | 180 | 287 | 245 | 88 | 10 |
| C. R. Upper Division | 1,046 | 755 | 480 | 513 | 225 | 200 |
| Revere Beach Division | 1,260 | 671 | 284 | 557 | 331 | 100 |
| Nantasket Beach Division | 598 | 309 | 162 | 358 | 329 | 112 |
| Quabbin Division | – | 351 | 136 | – | 8 | 8 |
| *Totals* | 6,447 | 3,476 | 2,276 | 2,807 | 2,081 | 754 |

*Ambulance and Wagon Calls Answered:*

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Blue Hills Division | 152 | 113 | 71 | 88 | 75 | 85 |
| Middlesex Fells Division | 137 | 97 | 65 | 69 | 64 | 108 |
| C. R. Lower Basin Division | 191 | 119 | 117 | 87 | 80 | 136 |
| C. R. Upper Division | 104 | 114 | 70 | 66 | 105 | 75 |
| Revere Beach Division | 256 | 127 | 183 | 405 | 257 | 205 |
| Nantasket Beach Division | 82 | 24 | 11 | 38 | 49 | 45 |
| Quabbin Division | – | – | – | – | – | – |
| *Totals* | 930 | 594 | 524 | 768 | 630 | 654 |

*Miscellaneous Work Performed by the Department:*

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Accidents reported | 1,953 | 968 | 993 | 1,218 | 1,865 | 1,579 |
| Assistance rendered other police departments | 218 | 87 | 113 | 136 | 149 | 152 |
| Arrests on Warrants | – | – | – | – | – | 4 |
| Buildings found open and secured | 44 | 76 | 105 | 102 | 110 | 102 |
| Cases investigated | 323 | 224 | 110 | 194 | 281 | 249 |
| Dead bodies found | 27 | 37 | 33 | 31 | 32 | 34 |
| Defective streets reported | 51 | 29 | 11 | 18 | 56 | 31 |
| Defective sidewalks reported | 15 | 12 | 15 | 23 | 33 | 16 |
| Defective street lights reported | 1,379 | 554 | 210 | 877 | 1,286 | 729 |
| Disturbances suppressed | 15 | 5 | 8 | 38 | 12 | 28 |
| Fatal accidents | 11 | 8 | 2 | 1 | 7 | 5 |
| Fire alarms given | 89 | 37 | 85 | 65 | 111 | 172 |
| Bank alarms answered | – | – | – | 3 | 26 | 20 |
| Fire alarms answered | 49 | 24 | 15 | 50 | 35 | 62 |
| Fires extinguished without alarm | 76 | 47 | 30 | 49 | 37 | 70 |
| Injured and sick persons assisted | 2,054 | 1,735 | 2,042 | 2,337 | 2,202 | 2,424 |
| Injured animals killed | – | 3 | – | 10 | 12 | 25 |
| Insane persons cared for | 24 | 10 | 15 | 12 | 9 | 14 |
| Persons rescued from drowning | 72 | 75 | 73 | 40 | 46 | 130 |
| Runaways apprehended | 34 | 47 | 41 | 44 | 38 | 22 |
| Stolen autos recovered | – | 11 | 32 | 41 | 56 | 73 |
| Street obstructions removed | 10 | 11 | 19 | 32 | 64 | 56 |
| Vessels assisted to anchorage | 61 | 34 | 18 | 8 | 9 | 15 |
| Water running to waste | 13 | 10 | 2 | 32 | 33 | 7 |
| Stolen bicycles recovered | – | – | – | – | 12 | 9 |
| Truants | – | – | – | – | 5 | 3 |
| Lost persons restored | 743 | 616 | 611 | 918 | 920 | 740 |
| Gas leak reported | – | – | 2 | 1 | 2 | – |

There were thirty-eight cases of wayward girls and delinquent boys which were handled by the temporary policewoman without court action which is not included in the 1941 list.

Number of operators booked for minor infractions of the motor vehicle laws and warned without court action by officers of the Department. Some of these violations were reported to the Registrar of Motor Vehicles for his action.

| *Year* | *Number* |
|---|---|
| 1941 | 6,120 |
| 1942 | 2,768 |
| 1943 | 1,793 |
| 1944 | 2,282 |
| 1945 | 3,835 |
| 1946 | 5,545 |

*List of Offences*

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Accessory after the fact | 1 | – | – | – | – | – |
| Accosting and annoying | 10 | 1 | 25 | 54 | 18 | 6 |
| Affray | 21 | 4 | – | – | – | – |
| Assault with intent to rape | 8 | 3 | – | 7 | – | 1 |
| Aiding in concealment of stolen property | – | 3 | – | – | – | – |
| Assault and battery | 52 | 21 | 48 | 46 | 37 | 32 |
| Assault and battery on police officer | 2 | – | 4 | – | 1 | – |
| Assault with dangerous weapon | 3 | – | – | 7 | – | 6 |
| Assault with intent to kill | – | 1 | – | – | – | – |
| Assault with intent to maim | – | – | 1 | – | – | – |
| Assault with intent to rob | – | – | – | 4 | 3 | 7 |

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Attempted larceny | 10 | 6 | 4 | 5 | 4 | 2 |
| Attempted robbery | – | – | – | 1 | 3 | 1 |
| Attempt to rescue prisoner | – | – | – | 2 | 1 | – |
| Breaking and entering | 1 | – | – | – | – | – |
| Breaking and entering in night time | 6 | 4 | 2 | 5 | 11 | 12 |
| Breaking and entering in day time | – | – | 1 | 1 | – | 2 |
| Breaking and entering, and larceny | 2 | – | – | – | – | – |
| Breaking and entering, larceny from vessel | – | – | – | 4 | 3 | – |
| Breaking glass on public beach | 1 | 1 | 4 | 8 | 6 | 2 |
| Being abroad in the night time | – | – | – | – | – | 1 |
| Burglary | – | 1 | – | – | – | – |
| Burglar tools in possession | 2 | – | – | – | – | – |
| Common nightwalker | 6 | 1 | 2 | – | – | – |
| Conspiracy | 1 | – | – | – | – | – |
| Contempt of court | 4 | – | – | – | – | – |
| Contributing to delinquency | 1 | – | – | – | – | – |
| Carrying concealed weapon | – | 2 | – | – | – | – |
| Delinquency | 43 | 66 | 99 | 110 | 113 | 84 |
| Disturbing peace | 12 | 3 | 10 | 8 | 7 | 4 |
| Disorderly conduct | – | – | 10 | 28 | 32 | 2 |
| Destruction of public property | – | – | – | 1 | 29 | 4 |
| Destruction of private property | – | – | – | 4 | 6 | 3 |
| Drunkenness | 808 | 409 | 378 | 720 | 453 | 418 |
| Demented persons | 1 | – | – | – | – | – |
| Defacing property | 15 | 2 | – | – | – | – |
| Default warrants | – | 34 | 18 | 17 | 8 | 23 |
| Desertion — U. S. Army | 7 | – | – | 1 | – | – |
| Destructive weapons in possession | – | – | – | – | – | 7 |
| Escaped state wards | 13 | 7 | 2 | 3 | 3 | 4 |
| Carnal knowledge and abuse of a female child | – | – | – | 1 | – | – |
| Conspiracy — violation of gaming laws | – | – | – | 14 | – | – |
| Escaped from Military Prison | – | – | – | 1 | – | – |
| Fictitious lottery | – | – | 1 | 1 | 2 | 4 |
| Fugitive from Justice | – | – | – | 1 | – | – |
| Federal offenses | – | 8 | – | – | – | – |
| Gaming | – | – | – | – | – | 6 |
| Gaming on the Lord's Day | – | – | – | 2 | – | – |
| Having a revolver in an automobile under his control without a permit | – | – | – | – | 2 | – |
| Hunting on State Reservations | – | – | – | 2 | – | 16 |
| Idle and disorderly | – | – | – | 2 | – | 2 |
| Indecent exposure | 5 | 3 | – | 1 | 7 | 7 |
| Impersonating a U. S. Marine | – | – | – | 1 | – | – |
| Kidnaping | – | – | – | – | – | 5 |
| Larceny | 39 | 28 | 56 | 51 | 51 | 53 |
| Larceny of Automobile | – | 9 | 6 | 14 | 19 | 4 |
| Lewdness | 18 | 1 | 7 | 10 | 6 | 4 |
| Larceny from a person | – | – | – | 1 | 8 | – |
| Lottery tickets (possession) | 1 | – | – | – | – | – |
| Manslaughter | – | 1 | – | – | 1 | 2 |
| Murder | – | 1 | – | – | – | – |
| Obstructing justice | 1 | – | – | – | – | – |
| Peddling without a license | – | – | – | – | – | 10 |
| Perjury | 1 | – | – | – | – | – |
| Profanity | 3 | 3 | – | – | 3 | 3 |

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Possession of dangerous weapon | – | – | – | 1 | – | 9 |
| Loitering | – | – | – | – | – | 6 |
| Rape, attempt to commit | – | – | – | – | – | 3 |
| Rape | 1 | 1 | – | – | – | 1 |
| Receiving stolen property | 2 | – | – | 1 | – | – |
| Refusing to obey police officer | – | – | – | – | – | 2 |
| Registering bets on speed of horses | – | – | – | 16 | – | – |
| Ringing false fire alarms | – | – | – | – | 6 | – |
| Released to Military Authorities | – | – | – | – | – | 126 |
| Robbery | 7 | – | – | 6 | – | – |
| Robbery — armed | – | – | – | 2 | 3 | 13 |
| Setting up and promoting lottery | – | – | – | 18 | – | – |
| Suspicion | 38 | 18 | 7 | 15 | 12 | 3 |
| Sodomy | 3 | – | – | – | – | – |
| Trespassing | 9 | 10 | 9 | 8 | 6 | – |
| Illegal sale of intoxicating liquor | – | – | – | – | 1 | – |
| Using boat without authority | 3 | 1 | 11 | 2 | – | 3 |
| Unlawful appropriation of boat | – | – | – | – | 4 | – |
| Unnatural Act | – | – | – | 2 | – | – |
| Vagrancy | 9 | 6 | 11 | 7 | 3 | 7 |
| Violation of probation | – | – | 3 | 7 | 2 | 9 |
| Violation of Sunday Law | 1 | 1 | 1 | – | – | – |
| Violation of Selective Service | – | – | 1 | 5 | – | – |
| Warrants | 74 | – | – | – | – | – |
| Wayward child | 2 | – | – | – | – | – |
| *Offences Against the Motor Vehicle Laws* | | | | | | |
| Allowing improper person to operate motor vehicle | 3 | – | – | 1 | 4 | 5 |
| Failing to stop at through way | 2 | 3 | 97 | 60 | 54 | 84 |
| Failing to stop at red light | 67 | 9 | – | 5 | 18 | 70 |
| Failing to stop for police officer | 5 | 5 | 6 | 4 | 4 | 4 |
| Failing to slow down for pedestrian | 8 | – | 1 | 1 | – | 3 |
| Failing to slow down for intersection | 67 | 32 | 8 | 1 | 8 | 34 |
| Failing to appear on parking summons | 15 | – | – | 3 | – | – |
| Failing to drive to right of center | 4 | – | – | – | – | – |
| Giving false name | 1 | – | – | – | – | – |
| Illegal use of spot light | 2 | – | – | – | – | – |
| Improper lights | 5 | 5 | 3 | 5 | 10 | 3 |
| Leaving accident scene without making self known | 23 | 16 | 7 | 18 | 17 | 36 |
| Lending license | 1 | – | – | – | – | – |
| Leaving running motor unattended | 1 | – | – | – | 1 | – |
| Not duly licensed | 101 | 32 | 31 | 37 | 28 | 59 |
| No license in possession | 39 | 24 | 8 | 12 | 12 | 17 |
| No registration in possession | 35 | 9 | 10 | 14 | 14 | 21 |
| No inspection certificate | 717 | 282 | 282 | 59 | 117 | 255 |
| No registration plates | – | – | – | 4 | 2 | 5 |
| Larceny of plates | – | – | – | 2 | – | – |
| Motor number removed | – | – | – | 1 | – | – |
| Operating under influence of intoxicating liquor | 187 | 84 | 51 | 62 | 85 | 126 |
| Operating after revocation of suspension of license | 21 | 8 | 10 | 14 | 16 | 14 |
| Operating so as to endanger | 85 | 44 | 17 | 34 | 37 | 48 |
| Operating unregistered motor vehicle | 50 | 30 | 19 | 21 | 26 | 18 |

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Operating uninsured motor vehicle | 54 | 27 | 6 | 24 | 29 | 20 |
| Operating at speed greater than reasonable and proper | 145 | 60 | – | – | – | – |
| Operating without proper plates | 14 | – | – | 4 | 6 | 6 |
| Operating negligently | 6 | – | – | – | – | – |
| Operating without proper brakes | 1 | – | – | – | – | – |
| Operating after revocation of registration | 1 | – | – | – | – | – |
| Refusing to show license | 1 | 1 | – | 2 | 1 | 3 |
| Using motor vehicle without authority | 35 | 15 | – | 37 | 24 | 27 |
| Unreasonable speed | – | – | – | 1 | – | – |
| Operating motor vehicle within eight feet of open door (street car) | – | – | – | 1 | 2 | – |
| Operating motor vehicle left of center of roadway | – | – | – | – | 3 | 19 |
| Interfering with fire apparatus at fire | – | – | – | – | 1 | – |
| Violation of Executive Order No.35 | – | – | – | 107 | – | – |
| *Offences Against M. D. C. Rules* | | | | | | |
| Violation of M.D.C. Rules, General | 137 | 80 | 33 | 41 | 49 | 23 |
| Violation of M.D.C. Rules, Automobile | 247 | 118 | 47 | 49 | 51 | 1,029 |
| Violation of M.D.C. Rules, Speeding | 551 | 128 | 79 | 94 | 120 | 332 |
| *Superior Court Dispositions* | | | | | | |
| Concord Reformatory, suspended | 15 | 7 | 5 | – | 4 | – |
| Discharged | 43 | 18 | 2 | – | – | – |
| Fined | 19 | 35 | 29 | 11 | 4 | 10 |
| Filed | 12 | 14 | 8 | 8 | 26 | – |
| House of Correction, committed | 15 | 8 | 5 | 10 | – | – |
| House of Correction, suspended | 10 | – | 8 | 1 | – | – |
| Nol Prossed | 7 | 1 | – | – | – | 5 |
| Pending | 15 | 7 | 11 | 1 | 14 | 11 |
| Probation | 1 | 7 | – | 2 | – | – |
| State Prison | 4 | 1 | 1 | 1 | 1 | 11 |
| State Farm | – | 1 | 1 | 2 | – | – |
| Woman's Reformatory | – | – | – | 2 | 1 | – |
| No bill | – | – | – | 2 | – | – |
| Not guilty | – | – | – | 11 | – | 6 |
| Released to Military Authorities | – | – | – | – | – | 1 |
| *Lower Court Dispositions* | | | | | | |
| Appealed | 104 | 62 | 26 | 43 | 25 | 48 |
| Committed to Jail or H. C. | 67 | 55 | 29 | 26 | 16 | 26 |
| Committed to State Farm | 25 | 15 | 7 | 6 | 4 | 6 |
| Committed to Hospitals | 13 | 7 | – | 2 | – | 3 |
| Committed to Sherborn | 7 | 1 | 2 | 3 | – | 1 |
| Cases pending | 47 | 14 | 9 | 10 | – | 10 |
| Concord Reformatory, suspended | 7 | – | – | – | – | – |
| Dismissed | 81 | – | – | 19 | 53 | 97 |
| Defaulted | 71 | 15 | 15 | 5 | 4 | 27 |
| Default removed | 10 | 1 | 5 | 5 | 3 | 21 |
| Drunks released | 213 | 88 | 62 | 65 | 91 | 165 |
| Discharged | 157 | 146 | 45 | 38 | 26 | 14 |
| Filed | 758 | 322 | 260 | 275 | 270 | 425 |
| Fined | 1,985 | 1,126 | 881 | 486 | 504 | 743 |

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Fined, cost of court | 170 | – | – | – | – | – |
| Fine suspended | 21 | – | – | – | – | 1 |
| Jail or H. C., suspended | 99 | – | 14 | 17 | 15 | 15 |
| Held for Grand Jury | 52 | 14 | 11 | 10 | 9 | 23 |
| No probable cause | 13 | – | – | 3 | 1 | 3 |
| Probation | 77 | 84 | – | – | 61 | – |
| Restitution | 1 | – | – | – | – | – |
| Suspicious persons released | 5 | – | – | 3 | – | – |
| Shirley School, suspended | 1 | – | – | – | – | – |
| Turned over to Parole Board | 4 | – | – | – | – | – |
| Turned over to other departments | 57 | 4 | 20 | 5 | 6 | 4 |
| Turned over to Probation Officer | 12 | – | – | 1 | 8 | 38 |
| Violation of Probation | 12 | – | – | – | – | – |
| Concord Reformatory | – | 3 | 2 | 4 | 14 | 5 |
| Shirley School | – | 9 | 3 | 3 | 11 | 8 |
| Lyman School | – | 4 | 9 | 9 | 8 | 7 |
| Released to Military Authorities | – | – | 135 | 387 | 210 | 15 |
| House of Good Shepherd | – | – | – | 1 | – | 1 |
| Adjudged Delinquent | – | – | – | 2 | – | – |
| Released | – | – | – | 22 | 61 | 4 |
| Lancaster School | – | – | – | 2 | – | 1 |
| Woman's Reformatory | – | – | – | 4 | – | – |
| Not guilty | – | – | – | 38 | 15 | 34 |
| Probation | – | – | – | 77 | – | 39 |
| Turned over to other police departments | – | – | – | 43 | 48 | 18 |
| Turned over to Public Welfare | – | – | – | 1 | – | – |
| Committed to Psychopathic Hospital | – | – | – | – | 1 | 11 |
| Lyman School, suspended | – | – | – | – | 3 | 3 |

*Fines Assessed by the Courts*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| M.D.C. Rules, General | $ 338.00 | $ 288.00 | $ 78.00 | $ 88.00 | $ 114.00 | $ 370.00 |
| M.D.C. Rules, Motor Vehicle | 3,905.00 | 1,701.00 | 805.00 | 1,076.00 | 1,085.00 | 2,598.00 |
| Motor Vehicle Law, Public Statutes | 15,636.00 | 8,009.00 | 4,957.00 | 4,743.00 | 7,570.00 | 7,714.00 |
| General Laws | 1,843.00 | 760.00 | 1,632.00 | 3,215.00 | 2,676.00 | 1,200.00 |
| Drunkenness | 1,374.00 | 519.00 | 375.00 | 750.00 | 960.00 | 155.00 |
| Superior Court Fines | 280.00 | 525.00 | 1,105.00 | 500.00 | 55.00 | 275.00 |
| Executive Order No. 31 | – | 2,920.00 | – | – | – | – |
| Executive Order No. 35 | – | 3,550.00 | 2,510.00 | 1,518.00 | 105.00 | – |
| *Totals* | $23,376.00 | $18,272.00 | $11,462.00 | $11,890.00 | $12,565.00 | $12,312.00 |

*Drills and Training School* — During the months of February and March of the year 1941, the Department was drilled in infantry drill, close and open order, armed with our twelve-gauge riot guns, according to the latest U. S. Army tactics, by Deputy Supt. Henry R. Hayes, Department Drillmaster, assisted by Lt. William G. Kiniry.

Lectures were also given on criminal law, police and court procedure, first aid and on the use and care of gas and firearms by Deputy Supt. Hayes and others.

The annual training school and military drills were cancelled in 1942 because of the wide dispersion of the force performing war duty.

*War Duty* — On December 8, 1941 at 1:00 A.M., the entire force went on an emergency war footing. Sixty officers from five divisions were detailed to locations on the water supply line and points of distribution. Emergency equipment was issued and all days off duty suspended. During the year 1942 more than half of the Department personnel was assigned to guard duty on land of the Common-

wealth at vital installations and locations. This duty was well performed and the officers earned the approval of the military department of the state for the protection so provided. This special duty curtailed the number of officers available for normal duties of the department in the Boston Metropolitan District and this situation was further complicated by a shortage of man power caused by enlistment and induction of officers into the armed forces. However, the force was ready and willing to perform any and all duty assigned to it by the Governor during the duration of the war emergency. The officers also assisted the Army, Navy and Coast Guard in police duty and cooperated with the Federal Authorities when requested.

*Public Relations* — During the year 1941, illustrated talks depicting the activities of the force were delivered by the Superintendent and Deputy Superintendent. A department pistol team composed of officers who were expert marksmen, under the command of Captain Thomas J. Kelleher, accompanied the Superintendent and Deputy Superintendent on many occasions. The requests from various organizations far exceeded those accepted. The number of talks given during the year 1941 was forty-three.

*General* — On February 18, 1941, the first large truck movement of the U. S. Army occurred, starting at 3:00 A.M. The Superintendent, Deputy Superintendent, one Captain, two Lieutenants, six Sergeants and fifty-eight Patrolmen, went on duty at 3:30 A.M., and the convoy of two hundred army vehicles passed quickly and safely over our roads from Cambridge to South Boston and return.

The Governors of the nation attended the annual Governor's Conference in Massachusetts from June 28 to July 3, 1941. The Commission furnished nine automobiles and nine uniformed police officers to act as aides to the visiting Governors. Lieutenant William J. Marley was placed in charge of the detail and the assignment was carried out in an excellent manner.

The National Golf Association held their open tournament at our course at Ponkapoag from August 19 to August 22, 1941. Ten patrolmen from other divisions were detailed to the Blue Hills Division for duty during this tournament. The event attracted a large number of people from all over the country and the policing and order maintained was excellent.

On November 4, 1944 the President of the United States campaigning for reelection spoke at Fenway Park. The Presidential party passed over Soldiers Field Road in Boston on the way to and from the rally. This department policed the route from the junction of Cambridge Street and Soldiers Field Road during the time when the party left for Fenway Park and during the return. The Deputy Superintendent had charge of a detail of two captains, two lieutenants, twelve sergeants and ninety-five patrolmen assigned to this work. In addition six patrolmen from the Charles River Upper Division guarded certain bridges in the Riverside area over which the presidential train travelled. Letters were received by the Commission from the President's Secretary, Mr. Early, expressing satisfaction for the efficient manner in which the officers performed this duty.

On October 28, 1944 Superintendent Edward M. Woods, head of the police force since 1935 and a member of the force for forty-four years was retired at his own request. Upon his retirement the department lost an efficient, humane and popular executive who was responsible in no small manner for the fine reputation enjoyed by the Metropolitan District Police throughout the entire country. The department joined in wishing Superintendent Woods a long and happy life and many years of the enjoyment and rest that he had so well earned.

As usual the department assisted municipal police departments in the district at football games and similar events. The usual police duty was performed at the Hatch Memorial Concertorium on the Esplanade and at racing and sailing regattas on the Charles River.

In behalf of former Superintendent Woods and myself, I wish to express appreciation for the cooperation received during the six years from former Commissioner Hultman, Commissioner Morrissey, his associate commissioners, Secretary Curtis, and all members of the Police Department.

# CONDENSED REPORT OF M. D. C., SEWERAGE DIVISION FOR THE YEARS 1941-1946 INCLUSIVE

*Report of Director of Sewerage Division and Chief Sewerage Engineer*

The following condensed report of the operations of the Metropolitan Sewerage Division for the calendar years 1941–1946, inclusive, is respectfully submitted:

*Organization* — Joseph P. Dever, Director of the Sewerage Division and Chief Sewerage Engineer since January 3, 1935, retired on July 22, 1943.

Ralph W. Loud, Acting Director of the Division from July 23, 1943, to July 5, 1945, retired from the state service on January 15, 1946.

Thomas A. Berrigan, formerly Sanitary Engineer, returned from military service on May 17, 1945, and was appointed Director of the Sewerage Division and Chief Sewerage Engineer on July 5, 1945.

## M. D. C., SEWERAGE DIVISION
### Engineering and Administrative Personnel

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Dir. and Ch. Sew. Engr. | 1 | 1 | 1 | 1 | 1 | 1 |
| Assoc. Civil Engr. | 1 | 1 | 1 | – | 1 | – |
| Sanitary Engr. | 1 | 1 | – | – | – | – |
| Supt. of Pumping Stations | 1 | 1 | 1 | 1 | 1 | 1 |
| Supt. of Maintenance, So. Met. Dist. | 1 | 1 | 1 | 1 | 1 | 1 |
| Acting Supt. of Maintenance, No. Met. Dist. | 1 | 1 | 1 | 1 | 1 | – |
| Senior Civil Engr. | 1 | 1 | 1 | 1 | 1 | 1 |
| Asst. Civil Engr. | 11 | 4 | 4 | 4 | 4 | 4 |
| Asst. San. Engr. | 1 | 1 | 1 | 1 | 1 | 1 |
| Jr. Civil Engr. | 1 | 1 | 1 | 1 | 1 | 1 |
| Sr. Civil Engrg. Draftsman | 1 | 1 | 1 | 1 | 1 | 1 |
| Sr. Engrg. Aid | 17 | 8 | 8 | 5 | 7 | 7 |
| Jr. Engrg. Aid | 7 | 4 | – | – | 1 | 1 |
| Sewer Const. Inspector | 8 | 2 | 2 | 2 | 2 | 3 |
| Principal Clerk | 2 | 2 | 1 | 1 | 1 | 2 |
| Clerks and Stenographers | 8 | 5 | 5 | 7 | 8 | 8 |
| | 62 | 35 | 29 | 27 | 32 | 32 |

## M. D. C., SEWERAGE DIVISION
### Pumping Station and Maintenance Personnel

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Pumping Station, North System | 77 | 78 | 71 | 81 | 81 | 82 |
| Pumping Station, South System | 53 | 53 | 47 | 55 | 55 | 55 |
| Maintenance, North System | 45 | 44 | 36 | 42 | 42 | 42 |
| Maintenance, South System | 32 | 32 | 29 | 32 | 32 | 32 |
| *Total* | 207 | 207 | 183 | 210 | 210 | 211 |

The Metropolitan Sewerage System comprises the North Metropolitan Sewerage District and the South Metropolitan Sewerage District, handling the sewage from 33 municipalities. The North Metropolitan Sewerage District is composed of the towns of Arlington, Belmont, Lexington, Reading, Stoneham, Wakefield, Winchester, and Winthrop, and the cities of Cambridge, Chelsea, Everett, Malden, Medford, Melrose, Revere, Somerville, Woburn, and the Charlestown, East Boston, and Deer Island districts of the City of Boston. The South Metropolitan Sewerage District is composed of the towns of Braintree, Brookline, Canton, Dedham, Milton, Needham, Norwood, Stoughton, Walpole, Watertown, Wellesley, Weymouth, and the cities of Newton, Quincy, Waltham, and the Brighton, Dorchester, Hyde Park, Roxbury and West Roxbury districts of the City of Boston.

*Metropolitan Sewers Purchased and Constructed* — The Metropolitan Sewerage System consists of 156.332 miles of Metropolitan Sewers and 11 Sewerage Pumping Stations and the Nut Island Screen House. Of this total, 9.642 miles of sewers.

with the Quincy Pumping Station, have been purchased from cities and towns of the districts. The remaining 146.690 miles of sewers and other works have been constructed by the Metropolitan Boards.

*Maintenance* — The maintenance of the Metropolitan Sewerage System includes the operation of 11 pumping stations, the Nut Island Screen House and 156.332 miles of Metropolitan sewers, receiving the discharge from 2292.52 miles of town and city sewers at 1,555 points, together with the care and study of inverted siphons under streams and in the harbor.

The regular work of this division, in addition to the operation of the pumping stations, has consisted of routine work of cleaning and inspecting sewers and siphons, caring for tide gates, outfall sewers, regulators and overflows, measuring flow in sewers, and the care of pumping stations and other buildings, grounds and wharves.

In addition to these regular duties, much other work was done by the maintenance organization and by outside contractors in making repairs to pumps, engines, screens, generators, boilers and other pumping station equipment.

*Gasoline in Public Sewers* — Special care has been taken to prevent the introduction of gasoline and other volatile liquids into the Metropolitan sewers. All newly constructed garages or other establishments using volatile liquids are supplied with a gasoline separator of approved design. Careful inspection is made of the installation of these separators and in their operation.

This system of inspection has improved the gasoline situation in regard to the danger to sewers. Occasionally odors of gasoline are detected in the sewers. These are reported to the Department of Public Safety which alone has statutory control of the distribution and handling of gasoline in the Commonwealth.

Gasoline Separators in the Metropolitan Sewerage System

| *Year* | *No. Installed* | *Total to Dec. 31* |
|---|---|---|
| *Up to 1940* | *1942* | *1942* |
| *1941* | 110 | 2,052 |
| 1942 | 18 | 2,070 |
| 1943 | 5 | 2,075 |
| 1944 | 7 | 2,082 |
| 1945 | 36 | 2,118 |
| 1946 | 62 | 2,180 |

Rates of Flow Through the North Metropolitan District Outlets near Deer Island

| *Year* | *Average Daily Flow* | *Maximum Daily Flow* | *Date Maximum Occurred* | *Average Per Person Per Day* |
|---|---|---|---|---|
| 1941 | 79.8 M.G.D. | 149.6 M.G.D. | Feb., 1941 | 117.3 gals. |
| 1942 | 92.7 " | 173.9 " | Mar. 18, 1942 | 136.0 " |
| 1943 | 122.8 " | 166.0 " | May 22, 1943 | 178.0 " |
| 1944 | 115.8 " | 176.2 " | Dec. 1, 1944 | 167.0 " |
| 1945 | 124.8 " | 187.5 " | Dec. 8, 1945 | 180.0 " |
| 1946 | 113.5 " | 168.3 " | Aug. 20, 1945 | 159.0 " |

Rates of Flow Through the South Metropolitan District Outlets near Nut Island

| *Year* | *Average Daily Flow* | *Maximum Daily Flow* | *Date Maximum Occurred* | *Average Per Person Per Day* |
|---|---|---|---|---|
| 1941 | 110.0 M.G.D. | 200.0 M.G.D. | Mar. 25, 1941 | 188.9 gals. |
| 1942 | 96.9 " | 232.5 " | Mar. 18, 1942 | 166.0 " |
| 1943 | 114.8 " | 219.0 " | Mar. 7, 1943 | 193.0 " |
| 1944 | 94.8 " | 194.3 " | Dec. 1, 1944 | 154.0 " |
| 1945 | 145.3 " | 223.0 " | Dec. 1, 1945 | 234.0 " |
| 1946 | 142.1 " | 217.2 " | Jan. 23, 1946 | 233.0 " |

# PUMPING STATIONS

## CAPACITIES AND RESULTS

### NORTH METROPOLITAN SYSTEM

*Deer Island Pumping Station* — The pumping units consist of four submerged centrifugal pumps with impeller wheels 8.25 feet in diameter, driven by triple expansion engines of the Reynolds-Corliss type. Contract capacity of one pump: 100,000,000 gallons per day with 19-foot lift. Contract capacity of three pumps: 45,000,000 gallons per day with 19-foot lift.

| *Year* | *Average Coal Duty For The Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|---|
| 1941 | 54,161,000 ft. lbs. | 79,821.000 gals. | 149,600,000 gals. |
| 1942 | 47,100,000 " " | 92,700,000 " | 173,900,000 " |
| 1943 | 51,980,000 " " | 122,779,000 " | 165,984,000 " |
| 1944 | 48,420,000 " " | 115,772,000 " | 176,241,000 " |
| 1945 | 54,102,000 " " | 124,825,000 " | 187,474,000 " |
| 1946 | 41,871,000 " " | 113,549,000 " | 168,330,000 " |

*East Boston Pumping Station* — The pumping units consist of four submerged centrifugal pump with impeller wheels 8.25 feet in diameter, driven by triple-expansion engines of the Reynolds-Corliss type. Contract capacity of one pump: 100,000,000 gallons per day with 19-foot lift; contract capacity of three pumps: 45,000,000 gallons per day each with 19-foot lift.

| *Year* | *Average Coal Duty For The Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|---|
| 1941 | 49,320,000 ft. lbs. | 77,469,000 gals. | 145,200,000 gals. |
| 1942 | 49,600,000 " " | 90,000,000 " | 168,800,000 " |
| 1943 | 53,046,000 " " | 91,322,000 " | 163,156,000 " |
| 1944 | 51,847,000 " " | 98,161,000 " | 163,048,000 " |
| 1945 | 51,352,000 " " | 103,900,000 " | 188,985,000 " |
| 1946 | 53,744,000 " " | 110,242,000 " | 163,430,000 " |

*Charlestown Pumping Station* — The pumping units consist of three submerged centrifugal pumps, two of them having impeller wheels 7.5 feet in diameter, the other 8.25 feet in diameter. They are driven by triple-expansion engines of the Reynolds-Corliss type. Contract capacity of one pump 60,000,000 gallons per day with 8-foot lift; contract capacity of two pumps: 22,000,000 gallons per day each with 11-foot lift.

| *Year* | *Average Coal Duty For The Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|---|
| 1941 | 80,458,000 ft. lbs. | 60,300,000 gals. | 75,000,000 gals. |
| 1942 | 52,600,000 " " | 53,900,000 " | 73,700,000 " |
| 1943 | 55,938,000 " " | 56,417,000 " | 73,700,000 " |
| 1944 | 61,530,000 " " | 61,502,000 " | 73,700,000 " |
| 1945 | 53,520,000 " " | 56,900,000 " | 70,000,000 " |
| 1946 | 51,357,000 " " | 56,847,000 " | 73,700,000 " |

*Alewife Brook Pumping Station* — The pumping units consist of one Andrews pump* driven by a compound marine engine, one Morris pump and Morris compound engine and a specially designed engine of vertical cross-compound type having between the cylinders a centrifugal pump rotating on a horizontal axis. Contract capacity of Andrews pump*: 4,500,000 gallons per day with 13-foot lift. Contract capacity of Morris pump: 8,000,000 gallons per day with 15-foot lift.

Contract capacity of special pump: 13,000,000 gallons per day with 13-foot lift. (*Andrews pump removed in 1942).

| Year | Average Coal Duty For The Year | Average Quantity Raised Per Day | Maximum Quantity Raised Per Day |
|---|---|---|---|
| 1941 | 34,812,000 ft. lbs. | 9,555,300 gals. | 14,318,000 gals. |
| 1942 | 32,850,000 " " | 9,789,000 " | 14,639,000 " |
| 1943 | 33,052,000 " " | 9,884,000 " | 14,435,000 " |
| 1944 | 32,117,000 " " | 9,801,000 " | 15,922,000 " |
| 1945 | 32,585,000 " " | 11,358,000 " | 17,400,000 " |
| 1946 | 32,467,000 " " | 11,129,000 " | 16,709,000 " |

*Reading Pumping Station* — The pumping units consist of two submerged centrifugal pumps, one of 2,500,000 gallons per 24 hours and one of 4,000,000 gallons per 24 hours capacity. These units operate against a maximum head of 65 feet, and are actuated by vertical shafts directly connected with 75 and 100 horsepower motors. Alternating current of 440 volts furnished by the Town of Reading is used.

| Year | Average Quantity Pumped Per Day | Maximum Quantity Pumped Per Day |
|---|---|---|
| 1941 | 893,000 gals. | 2,333,000 gals. |
| 1942 | 1,089,000 " | 3,208,000 " |
| 1943 | 1,368,000 " | 3,000,000 " |
| 1944 | 1,346,000 " | 3,124,000 " |
| 1945 | 1,406,000 " | 4,000,000 " |
| 1946 | 1,424,000 " | 2,792,000 " |

*East Boston Temporary Pumping Station* — This station is equipped with one 400 h.p. 394 r.p.m. General Electric motor which operates a 50 M.G.D. vertical centrifugal non-clog pump at a total head of 35.4 feet, and with one 600 h.p. 320 r.p.m. General Electric motor which operates a 75 M.G.D. vertical centrifugal non-clog pump at a total head of 38.5 feet.

Alternating current is furnished by the Boston Edison Company.

| Year | Average Quantity Pumped Per Day | Maximum Quantity Pumped Per Day |
|---|---|---|
| 1945 | 1,318,000 gals. | 24,960,000 gals. |
| 1946 | 2,845,000 " | 25,379,000 " |

## SOUTH METROPOLITAN SYSTEM

*Ward Street Pumping Station* — The pumping units consist of two vertical, triple-expansion pumping engines, of the Allis-Chalmers type, operating reciprocating pumps, the plungers of which are 48-inches in diameter with a 60-inch stroke, and one 50,000,000 gallon centrifugal pumping unit actuated by a 500 h.p. uniflow engine. Contract capacity of 3 pumps: 50,000,000 gallons each, with 45-foot lift.

| Year | Average Coal Duty For The Year | Average Quantity Raised Per Day | Maximum Quantity Raised Per Day |
|---|---|---|---|
| 1941 | 75,733,000 ft. lbs. | 34,880,000 gals. | 64,050,000 gals. |
| 1942 | 74,300,000 " " | 40,115,000 " | 73,890,000 " |
| 1943 | 70,649,000 " " | 37,203,000 " | 62,250,000 " |
| 1944 | 73,612,000 " " | 37,649,000 " | 66,250,000 " |
| 1945 | 75,593,000 " " | 39,815,000 " | 65,750,000 " |
| 1946 | 85,632,000 " " | 38,015,000 " | 61,000,000 " |

*Quincy Pumping Station* — The pumping units consist of one Laurence centrifugal pump driven by a Sturtevant compound condensing engine, one Morris centrifugal pump driven by a Morris compound condensing engine, and one DeLaval

centrifugal pump driven by a Fitchburg vertical uniflow engine. Contract capacity of 3 pumps: Laurence, 10,000,000 gallons; Morris, 10,000,000 gallons; DeLaval, 15,000,000 gallons.

| *Year* | *Average Coal Duty For The Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|---|
| 1941 | 34,679,000 ft. lbs. | 8,039,000 gals. | 19,750,000 gals. |
| 1942 | 31,500,000 " " | 11,415,000 " | 36,206,000 " |
| 1943 | 33,330,000 " " | 11,724,000 " | 24,900,000 " |
| 1944 | 31,960,000 " " | 10,510,000 " | 23,500,000 " |
| 1945 | 27,900,000 " " | 12,149,000 " | 23,500,000 " |
| 1946 | 43,311,000 " " | 15,470,000 " | 23,700,000 " |

*Nut Island Screen House* — The plant at this house includes two sets of screens in duplicate actuated by small reversing engines of the Fitchburg type. Two vertical tubular boilers, 80 h.p., each, operate the engines, provide heat and light for the house, burn materials intercepted at the screens, and furnish power for the Hough's Neck Pumping Station.

| *Year* | *Average Daily Quantity of Sewage Passing Screens* | *Maximum Quantity Passing Screens Per Day* |
|---|---|---|
| 1941 | 110,000,000 gals. | 200,000,000 gals. |
| 1942 | 96,900,000 " | 232,500,000 " |
| 1943 | 114,818,000 " | 219,020,000 " |
| 1944 | 94,788,000 " | 194,310,000 " |
| 1945 | 145,280,000 " | 223,050,000 " |
| 1946 | 142,146,000 " | 217,200,000 " |

*Hough's Neck Pumping Station* — The pumping units consist of two 6-inch submerged Yeoman centrifugal pumps with vertical shafts actuated by two General Electric Company, 10 h.p., direct current motors.

The labor and electric energy for this station are supplied from the Nut Island Screen House.

| *Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|
| 1941 | 310,660 gals. | 560,130 gals. |
| 1942 | 349,000 " | 527,000 " |
| 1943 | 512,000 " | 984,000 " |
| 1944 | 738,000 " | 1,136,000 " |
| 1945 | 723,910 " | 1,565,000 " |
| 1946 | 558,000 " | 816,000 " |

*Squantum Pumping Station* — The pumping units consist of two 10-inch submerged DeLaval centrifugal pumps with vertical shafts actuated by two Crocker-Wheeler 60 h.p. motors. Each unit is capable of lifting 4,000,000 gallons of sewage per day against a head of 46 feet.

| *Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|
| 1941 | 238,060 gals. | 1,446,300 gals. |
| 1942 | 249,000 " | 1,277,000 " |
| 1943 | 233,000 " | 823,000 " |
| 1944 | 272,600 " | 1,493,000 " |
| 1945 | 366,400 " | 3,399,000 " |
| 1946 | 367,600 " | 1,055,000 " |

*Braintree-Weymouth Pumping Station* — The pumping units consist of two DeLaval centrifugal pumps actuated by 150 h.p. direct connected Winton diesel

engines, together with all accessories appertaining thereto. Each unit is capable of lifting 15,000,000 gallons of sewage per day against a head of 30 feet.

| *Year* | *Average Quantity Raised Per Day* | *Maximum Quantity Raised Per Day* |
|---|---|---|
| 1941 . . | 1,723,000 gals. | 2,751,000 gals. |
| 1942 . . | 2,126,000 " | 5,679,000 " |
| 1943 . . | 2,651,000 " | 5,526,000 " |
| 1944 . . | 2,981,000 " | 6,480,000 " |
| 1945 . . | 3,180,000 " | 11,543,000 " |
| 1946 . . | 3,021,000 " | 4,692,000 " |

## Material Intercepted at the Screens

### North Metropolitan Sewerage Stations

| *Year* | *Cubic Yards Screenings* | *Cubic Feet of Screenings Per Million Gallons of Sewage* |
|---|---|---|
| 1941 . . | 1,635 | 1.52 |
| 1942 . . | 1,744 | 1.39 |
| 1943 . . | 1,743 | 1.05 |
| 1944 . . | 1,732 | 1.11 |
| 1945 . . | 1,809 | 1.07 |
| 1946 . . | 1,698 | 1.11 |

### South Metropolitan Sewerage Stations

| *Year* | *Cubic Yards Screenings* | *Cubic Feet of Screenings Per Million Gallons of Sewage* |
|---|---|---|
| 1941 . . | 3,594 | 2.42 |
| 1942 . . | 3,489 | 2.66 |
| 1943 . . | 3,637 | 2.34 |
| 1944 . . | 3,608 | 2.81 |
| 1945 . . | 3,693 | 1.88 |
| 1946 . . | 3,877 | 2.02 |

## Areas, Populations, and Local Sewer Connections in Metropolitan Sewerage Districts

### North Metropolitan Sewerage District

| *Year* | *Area Sq. Mi.* | *Estimated Total Population* | *Miles of Local Sewer Connected* | *Estimated Population Contributing Sewage* | *Ratio of Contributing to Total Population %* | *Connections Made with Metropolitan Sewers Total to Dec. 31* | |
|---|---|---|---|---|---|---|---|
| | | | | | | *Public* | *Private* |
| 1941 | 101.63 | 739,180 | 1113.43 | 680,560 | 92.07 | 406 | 780 |
| 1942 | 101.60 | 738,920 | 1118.29 | 681,550 | 92.24 | 409 | 781 |
| 1943 | 101.59 | 746,280 | 1119.09 | 688,820 | 92.27 | 409 | 785 |
| 1944 | 101.59 | 748,660 | 1121.87 | 691,630 | 92.38 | 410 | 785 |
| 1945 | 101.57 | 759,700 | 1126.48 | 694,260 | 91.39 | 411 | 785 |
| 1946 | 101.47 | 765,050 | 1133.76 | 714,050 | 93.33 | 416 | 788 |

### South Metropolitan Sewerage District

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1941 | 208.47 | 777,710 | 1173.59 | 582,250 | 74.87 | 236 | 100 |
| 1942 | 208.47 | 776,160 | 1187.88 | 585,440 | 75.43 | 236 | 101 |
| 1943 | 208.55 | 787,750 | 1183.15 | 594,280 | 75.44 | 236 | 104 |
| 1944 | 208.55 | 790,580 | 1182.68 | 602,810 | 76.25 | 238 | 106 |
| 1945 | 208.41 | 823,570 | 1192.77 | 620,330 | 75.32 | 238 | 108 |
| 1946 | 202.37* | 735,410* | 1158.76 | 611,090 | 83.10 | 240 | 111 |

## Both Metropolitan Sewerage Districts

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1941 | 310.10 | 1,516,890 | 2287.02 | 1,262,810 | 83.25 | 642 | 880 |
| 1942 | 310.07 | 1,515,080 | 2306.17 | 1,266,990 | 83.63 | 645 | 882 |
| 1943 | 310.14 | 1,534,030 | 2302.24 | 1,282,900 | 83.63 | 645 | 889 |
| 1944 | 310.14 | 1,539,240 | 2304.55 | 1,294,440 | 84.10 | 648 | 890 |
| 1945 | 309.98 | 1,583,270 | 2319.25 | 1,314,590 | 83.03 | 649 | 893 |
| 1946 | 303.94* | 1,500,460* | 2292.52 | 1,325,140 | 88.32 | 656 | 899 |

*Decrease due to change in South Metropolitan Sewerage District caused by Chapter 367, Acts of 1946, entitled "An act to exclude certain areas in the City of Boston from the South Metropolitan Sewerage System," enacted on May 23, 1946, effective January 1, 1946.

## North Metropolitan Sewerage System

### Location, Length and Sizes of Metropolitan Sewers, with Public and Special Connections

| *City or Town* | *Size of Sewers* | *Length in Miles* | *Connections December 31, 1946* | |
|---|---|---|---|---|
| | | | *Public* | *Special* |
| Arlington | 10″ to 3′0″x 3′6″ | 6.723 | 67 | 259 |
| Belmont | 15″ to 2′6″ | 0.008 | 5 | – |
| Boston: | | | | |
| Charlestown | 12″ to 6′7″x 7′5″ | 3.292 | 15 | 14 |
| Deer Island | 4′0″ to 9′0″ | 1.653 | 4 | 2 |
| East Boston | 12″ to 9′0″ | 5.567 | 25 | 5 |
| Cambridge | 15″ to 5′2″x 5′9″ | 7.899 | 60 | 16 |
| Chelsea | 15″ to 11′3″x 11′3″ | 6.784 | 17 | 9 |
| Everett | 4′8″x 5′1″ to 11′3″x 11′3″ | 4.471 | 10 | 12 |
| Lexington | 15″ to 2′3″ | 0.002 | 2 | – |
| Malden | 12″ to 4′6″x 4′10″ | 5.844 | 40 | 255 |
| Medford | 10″ to 9′3″g 9′3″ | 12.704 | 35 | 21 |
| Melrose | 10″ to 4′6″x 4′10″ | 6.099 | 43 | 137 |
| Reading | 16″ to 3′0″ | 0.055 | 1 | – |
| Revere | 15″ to 4′0″ | 0.136 | 3 | – |
| Somerville | 10″ to 6′5″x 7′2″ | 3.577 | 16 | 9 |
| Stoneham | 10″ to 3′0″ | 4.026 | 12 | 1 |
| Wakefield | 2′0″x 2′3″ to 3′0″ | 0.703 | 2 | 1 |
| Winchester | 15″ to 5′6″x 5′9″ | 13.496 | 41 | 36 |
| Winthrop | 9′0″ | 2.864 | 14 | 4 |
| Woburn | 15″ to 4′2″x 4′5″ | 1.783 | 4 | 7 |
| *Totals* | | 87.686 | 416 | 788 |

## South Metropolitan Sewerage System

*Location, Length and Sizes of Metropolitan Sewers, with Public and Special Connections*

| *City or Town* | *Size of Sewers* | *Length in Miles* | *Connections, December 31, 1946* | |
|---|---|---|---|---|
| | | | *Public* | *Special* |
| Boston: | | | | |
| Brighton | 12″ to 7′0″ | 6.405 | 16 | 10 |
| Dorchester | 2′6″x 2′7″ to 3′0″x 4′0″ | 2.870 | 14 | 9 |
| Hyde Park | 2′6″ to 10′7″x 11′7″ | 4.543 | 20 | 6 |
| Roxbury | 3′9″ to 6′6″x 7′0″ | 2.930 | 17 | 7 |
| West Roxbury | 12″ to 9′3″x 10′2″ | 7.643 | 30 | 15 |
| Braintree | 2′6″ | 0.071 | 1 | – |
| Brookline | 8″ to 6′6″x 7′0″ | 2.540 | 14 | 2 |
| Canton | 20″ to 4′6″x 5′0″ | 7.243 | 4 | 14 |
| Dedham | 2′9″x 3′0″ to 4′0″x 4′1″ | 5.012 | 11 | 3 |
| Hull[2] | 60″ outfall | 0.750 | – | – |
| Milton | 8″ to 11′0″x 12′0″ | 7.127 | 45 | 4 |
| Needham | 2′0″x 2′3″ to 2′3″x 2′6″ | 4.921 | 1 | 10 |
| Newton | 15″ to 5′3″x 5′6″ | 2.912 | 17 | 18 |
| Norwood | 2′6″x 4′0″x 4′3″ | 2.844 | 5 | 1 |
| Quincy | 16″ to 11′3″x 12′6″ | 8.738 | 33 | 3 |
| Stoughton[3] | 20″ | – | 1 | – |
| Walpole[3] | 2′6″x 2′9″ | – | 1 | – |
| Waltham | 3′6″x 4′0″ | 0.001 | 1 | – |
| Watertown | 12″ to 4′2″x 4′9″ | 0.750 | 8 | 6 |
| Wellesley[3] | 2′0″x 2′3″ | – | 1 | – |
| Weymouth | 2′6″ to 4′9″x 5′0″ | 1.346 | – | 3 |
| *Totals* | | 68.646 | 240 | 111 |

[1] Back Bay previously listed separately is now included in Roxbury.
[2] Hull is not a part of the Metropolitan Sewerage District.
[3] The Metropolitan Sewer extends but a few feet into this town.

## North Metropolitan Sewerage System

*Table showing Cities and Towns Delivering Sewage to this System; Miles of Sewer Connected; Estimated Population and Areas Now Contributing; Total Areas Ultimately to Contribute and Present Populations on Such Areas. (All figures estimated as of December 31, 1946.)*

| Cities and Towns | *Miles of Local Sewer Connected* | *Separate or Combined* | *No. of Connections with Local Sewers* | *Estimated No. of Persons Served by Each House Connection*[1] | *Estimated Population now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area now Contributing Sewage* | *Area Ultimately to Contribute Sewage* |
|---|---|---|---|---|---|---|---|---|
| Arlington | 88.52 | Sep. & Comb. | 7,608 | 5.54 | 42,150 | 44,220 | 3.47 | 4.68 |
| Belmont | 59.67 | Sep. | 4,300 | 5.62 | 24,170[3] | 29,910[3] | 2.85 | 3.92 |
| Boston: | | | | | | | | |
| Charlestown | 22.45 | Sep. & Comb. | 5,673 | 4.52 | 25,640 | 25,670 | 0.67 | 1.27 |
| Deer Island | 0.70 | Sep. | – | – | 620[2] | 620[2] | – | – |
| East Boston | 36.12 | Sep. & Comb. | 5,652 | 9.53 | 53,860 | 53,900 | 1.27 | 2.18 |
| Cambridge | 198.04 | Sep. & Comb. | 19,693 | 5.65 | 111,260 | 111,300 | 5.37 | 5.43 |
| Chelsea | 37.80 | Sep. & Comb. | 4,601 | 8.54 | 39,290 | 39,550 | 1.33 | 2.06 |
| Everett | 53.27 | Sep. & Comb. | 7,142 | 6.83 | 48,780 | 48,840 | 2.15 | 2.92 |
| Lexington | 22.53 | Sep. | 1,011 | 4.67 | 4,720 | 14,760 | 1.05 | 15.98 |
| Malden | 85.76 | Sep. | 10,098 | 5.90 | 59,580 | 59,660 | 3.72 | 4.16 |
| Medford | 99.61 | Sep. | 12,216 | 5.53 | 67,550 | 67,660 | 4.75 | 6.11 |
| Melrose | 60.86 | Sep. | 5,992 | 4.73 | 28,340 | 28,380 | 2.47 | 3.81 |
| Reading | 12.61 | Sep. | 789 | 4.20 | 3,310 | 12,660 | 0.58 | 9.76 |
| Revere | 54.90 | Sep. | 5,679 | 5.44 | 30,890 | 35,950 | 2.69 | 5.55 |
| Somerville | 127.98 | Sep. & Comb. | 18,642 | 5.70 | 106,260 | 106,300 | 3.88 | 3.96 |
| Stoneham | 25.47 | Sep. | 2,000 | 4.65 | 9,300 | 12,220 | 1.20 | 4.27 |
| Wakefield | 31.11 | Sep. | 2,313 | 5.18 | 11,980 | 19,140 | 1.67 | 6.36 |
| Winchester | 49.64 | Sep. | 3,367 | 4.58 | 15,420 | 15,440 | 2.25 | 5.31 |
| Winthrop | 34.13 | Sep. | 4,482 | 4.23 | 18,950 | 18,960 | 1.44 | 1.61 |
| Woburn | 32.59 | Sep. | 2,260 | 5.30 | 11,980 | 19,910 | 1.52 | 12.23 |
| Totals | 1,133.76 | Sep. & Comb. | 123,518 | 5.78 | 714,050 | 765,050 | 44.33 | 101.57 |

[1] Estimated from Assessors' statement of the number of houses in each city or town on December 1, 1946, and the population from census of 1945.
[2] Estimated by Superintendent of the Institution on Deer Island.
[3] Including two connections with McLean Hospital, having an estimated population of 606.

## South Metropolitan Sewerage System

| Cities and Towns | *Miles of Local Sewer Connected* | *Separate or Combined* | *No. of Connections with Local Sewers* | *Estimated No. of Persons Served by Each House Connection*[1] | *Estimated Population now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area now Contributing Sewage* | *Area Ultimately to Contribute Sewage* |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sq. Miles | Sq. Miles |
| Boston, Brighton[2] | 68.05 | Sep. & Comb. | 6,811 | 9.81 | 66,810 | 66,860 | 3.47 | |
| Boston, Dorchester[2] | 54.27 | Sep. & Comb. | 6,302 | 13.46 | 84,820 | 84,860 | 3.08 | |
| Boston, Hyde Park[2] | 49.45 | Sep. | 3,565 | 7.16 | 25,520 | 25,570 | 2.13 | 18.94 |
| Boston, Roxbury[2,3] | 18.38 | Sep. & Comb. | 3,784 | 8.65 | 32,700 | 32,740 | 1.17 | |
| Boston, West Roxbury[2] | 94.53 | Sep. & Comb. | 8,865 | 6.51 | 57,700[4] | 57,720[4] | 4.05 | |
| Braintree | 24.02 | Sep. | 1,158 | 4.25 | 4,920 | 21,020 | 1.05 | 13.44 |
| Brookline | 104.29 | Sep. & Comb. | 8,381 | 6.96 | 58,330 | 58,350 | 4.88 | 5.33 |
| Canton | 4.09 | Sep. | 347 | 4.10 | 1,420 | 6,760 | 0.18 | 17.79 |
| Dedham | 33.83 | Sep. | 2,063 | 4.44 | 9,160 | 16,930 | 1.48 | 9.66 |
| Milton | 50.00 | Sep. & Comb. | 4,122 | 4.33 | 17,850 | 21,980 | 2.04 | 9.56 |
| Needham | 25.18 | Sep. | 1,487 | 4.04 | 6,010 | 15,010 | 1.04 | 11.32 |
| Newton | 211.30 | Sep. | 15,118 | 4.89 | 73,930 | 78,610 | 10.26 | 16.00 |
| Norwood | 38.84 | Sep. | 2,617 | 5.72 | 14,970 | 16,810 | 1.99 | 10.16 |
| Quincy | 168.27 | Sep. | 15,458 | 5.06 | 78,220 | 82,860 | 6.43 | 11.46 |
| Stoughton | 6.04 | Sep. | 229 | 4.33 | 990 | 9,250 | 0.20 | 16.23 |
| Walpole | 12.46 | Sep. | 322 | 4.69 | 1,510 | 8,530 | 0.48 | 20.81 |
| Waltham | 74.06[6] | Sep. | 6,184 | 4.54 | 28,080[5] | 46,970[5] | 4.00 | 11.50 |
| Watertown | 65.52 | Sep. | 6,529 | 5.77 | 37,670 | 37,750 | 3.00 | 3.82 |
| Wellesley | 56.18 | Sep. | 2,543 | 4.12 | 10,480 | 18,060 | 2.64 | 9.89 |
| Weymouth[7] | – | | – | – | – | 28,770 | – | 16.46 |
| Totals | 1,158.76 | Sep. & Comb. | 95,885 | 6.37 | 611,090 | 735,410 | 53.57 | 202.37 |

[1] Estimated from Assessors' statement of the number of houses in each city or town on December 31, 1946, and the population from census of 1945.
[2] Boston Districts revised in accordance with Chapter 367, Acts of 1946, and new figures submitted by City of Boston.
[3] Back Bay now included as part of Roxbury.
[4] Including connection with the Boston State Hospital, having an estimated population of 3,230.
[5] Including connections with the Metropolitan State Hospital and the Middlesex CountyTuberculosis Hospital, authorized by Chapter 372 of the Acts of 1928 and Chapter 373 of the Acts of 1929, having an estimated population of 2,714.
[6] Includes 3.65 miles of trunk sewer built by Waltham for the joint use of Waltham, Watertown, Metropolitan State Hospital, and Middlesex County Tuberculosis Hospital, authorized by Chapter 373 of the Acts of 1928 and Chapter 373 of Acts of 1929.
[7] Weymouth has no town sewers, but the Federal Government has built 0.98 miles of sewer to take care of Federal Housing Project No. 18052 at North Weymouth. The Bethlehem-Hingham Plant in Hingham delivers sewage into the Metropolitan Sewer through 0.81 miles of 12 inch force main in Hingham and 1.34 miles in Weymouth.

## Both Metropolitan Sewerage Systems

*Table Showing Areas Delivering Sewage to Both Systems; Approximate Miles of Sewers Connected; Estimated Populations and Areas Now Contributing; Total Areas Ultimately to Contribute, and Present Populations on Such Areas.*

(Populations Estimated as of December 31, 1946)

| Systems | *Miles of Local Sewers Connected* | *Separate or Combined* | *No. of Connections with Local Sewers* | *Estimated No. of Persons Served by Each House Connection* | *Estimated Population now Contributing Sewage* | *Estimated Present Total Population* | *Estimated Area now Contributing Sewage* | *Area Ultimately to Contribute Sewage* |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Sq. Miles | Sq. Miles |
| North Metropolitan . . | 1,133.76 | Sep. & Comb. | 123,518 | 5.78 | 714,050 | 765,050 | 44.33 | 101.57 |
| South Metropolitan . . | 1,158.76 | Sep. & Comb. | 95,885 | 6.37 | 611,090 | 735,410 | 53.57 | 202.37 |
| Totals . . . | 2,292.52 | Sep. & Comb. | 219,403 | 6.04 | 1,325,140 | 1,500,460 | 97.90 | 303.94 |

CONTRACT MADE DURING THE YEARS 1941–1946 INCLUSIVE

*Contracts Relating to the North Metropolitan System*

| *Year* | *No. of Contracts* | *Value of Contracts Based on Bids* | *Completed Contract Amounts* |
|---|---|---|---|
| 1941 | 2 | $8,475.00 | $8,475.00 |
| 1942 | 2 | 6,080.00 | 6,080.00 |
| 1943 | 1 | 4,680.00 | 4,680.00 |
| 1944 | – | – | – |
| 1945 | 2 | 44,819.00 | 46,163.65 |
| 1946 | 2 | 11,978.00 | Not completed |

CONTRACTS RELATING TO THE SOUTH METROPOLITAN SYSTEM

| | | | |
|---|---|---|---|
| 1941 | 1 | $33,335.00 | $33,999.99 |
| 1942 | – | – | – |
| 1943 | 1 | 1,548.00 | 1,572.77 |
| 1944 | 1 | 7,161.00 | 7,161.00 |
| 1945 | – | – | – |
| 1946 | 2 | 37,204.00 | Not completed |

## CONDENSED REPORT OF THE WATER DIVISION FOR THE YEARS 1941-1946 INCLUSIVE

REPORT OF THE DIRECTOR OF THE WATER DIVISION AND CHIEF WATER SUPPLY ENGINEER

The assignment of the permanent and temporary employees in the main and branch offices and the permanent and temporary employees in our labor force engaged in maintaining and operating the reservoirs, aqueducts, pipe lines, hydro-electric and pumping stations and in doing miscellaneous construction work under the direction of the Director of Water Division and Chief Water Supply Engineer at the end of the six calendar years is as follows:

| | *Dec. 31 1941* | *Dec. 31 1942* | *Dec. 31 1943* | *Dec. 31 1944* | *Dec. 31 1945* | *Dec. 31 1946* |
|---|---|---|---|---|---|---|
| Main and Branch Offices: | | | | | | |
| Permanent Employees | 54 | 45 | 39 | 37 | 46 | 43 |
| Temporary Employees | 2 | 0 | 4 | 4 | 6 | 13 |
| Military Substitutes | 2 | 2 | 6 | 7 | 1 | 0 |
| Labor Force: | | | | | | |
| Permanent Employees | 304 | 287 | 275 | 296 | 295 | 309 |
| Temporary Employees | 19 | 5 | 8 | 3 | 17 | 34 |
| Military Substitutes | 0 | 2 | 3 | 1 | 0 | 0 |
| Total Engineering Force | 381 | 341 | 335 | 348 | 365 | 399 |

In connection with the organization, nine employees were granted leaves of absence to enter Military Service of World War II. One employee, Mr. Edmund C. Knight, Senior Sanitary Engineering Aid, of the Sudbury Section paid the supreme sacrifice. Mr. Knight was killed in action on December 9, 1944.

RETIREMENTS

| *Name* | *Title* | *Date of Retirement* | *Years of Service* |
|---|---|---|---|
| Mary E. Kent | Senior Clerk and Typist | Feb. 25, 1941 | 34 |
| Clifford Foss | Associate Civil Engineer | Dec. 7, 1942 | 47 |
| Charles A. Frost | Assistant Civil Engineer | Aug. 27, 1942 | 45 |
| (Re-employed under Chapter 16, Acts of 1942, during war emergency) | | | |
| Charles P. Stuart | Supt. Pumping Service | Feb. 1, 1946 | 41 |
| Charles E. Livermore | Senior Bacteriologist | May 18, 1946 | 48 |

| *Deceased* | *Title* | *Date of Death* | *Years of Service* |
|---|---|---|---|
| John A. Balam | General Foreman | Nov. 12, 1941 | 44 |
| Samuel E. Killam | Dir. of Water Div. and Chief Wat. Supply Engr. | June 18, 1942 | 45 |
| William H. Bell | Supt. Distribution Section | Jan. 8, 1942 | 24 |
| Roger Faiello | Senior Mech. Draftsman | Feb. 28, 1942 | 12 |
| Israel Aubey | Supt. Sudbury Section | Feb. 9, 1943 | 42 |
| Harold D. Kilgore | Supt. Distribution Section | Dec. 9, 1946 | 24 |

Mr. Clarence H. Reed was appointed Acting Superintendent of the Sudbury Section after the death of Mr. Aubey. Mr. Samuel E. Killam who had been employed in the Water Division for 40 years, 30 of which he served as Superintendent of the Distribution Section, was appointed Director of the Water Division on September 5, 1938, which position he held until June 18, 1942, the time of his death. Mr. Clifford Foss, Associate Civil Engineer, was appointed Acting Director of the Water Division after Mr. Killam's death and served until August 10, 1942, when Frederick W. Gow was appointed Director of the Water Division and Chief Water Supply Engineer. On November 30, 1944, Mr. Gow terminated his services with the Water Division to accept a position as Division Engineer of the Metropolitan District Water Supply Commission. Mr. Harold J. Toole, Superintendent of the Wachusett Section, was appointed to fill the vacancy caused by Mr. Gow's transfer to the Metropolitan District Water Supply Commission. On October 14, 1946, James J. Matera was promoted to the position of Superintendent of the Wachusett Section to fill the vacancy caused by Mr. Toole's promotion to the Directorship. Mr. Allan Grieve, Jr., was appointed Superintendent of the Sudbury Section on December 18, 1944, and Mr. Reed returned to his former duties as Assistant Sanitary Engineer.

## Metropolitan Water District and Works

The Metropolitan Water District includes 20 municipalities with an area of about 174 square miles and an estimated population as of July 1, 1946, of 1,566,650, an increase of some 49,960 since July 1, 1941. Of these municipalities, 18 were regularly supplied with water from the Metropolitan Water System, the estimated population on July 1, 1946, was 1,429,690 an increase of 33,570 since July 1, 1941.

The water supply used in the Water District from 1941 to 1946, inclusive, was obtained from the run-off of the watersheds of Quabbin, Wachusett, Ware and Sudbury, and from Cochituate until 1943. The total yield of these watersheds is shown on the following tables:

| | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Total Yield of Watersheds (million gallons) | 34,355.6 | 67,169.2 | 64,565.2 | 118,935.6 | 198,291.9 | 144,708.1 |
| (Equivalent to million gallons per day) | 94.1 | 184.0 | 176.9 | 325.0 | 543.3 | 396.5 |
| Capacity of Storage Reservoirs at high water (million gallons) | 82,544.6 | 82,544.6 | 82,544.6 | 495,253.6 | 495,253.6 | 495,253.6 |
| Approx. No. Miles of Pipes (Met. Works) | 183.0 | 183.9 | 185.5 | 186.4 | 186.8 | 187.6 |
| Percentage of Pipe 16"–60" diameter | 96.5 | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 |
| Average Daily Consumption (million gallons) | 145.3 | 151.2 | 157.9 | 162.4 | 163.6 | 166.6 |
| Million Gallons Delivered Daily by Gravity | 76.0 | 80.1 | 88.4 | 72.9 | 90.2 | 93.0 |
| Percentage of Million Gallons for Total Consumption Delivered by Gravity | 52.0 | 53.0 | 56.0 | 45.0 | 56.0 | 56.0 |
| Miles of Pipe Constituting Boston's Local Distribution System | 996.0 | 996.5 | 996.7 | 996.7 | 996.7 | 997.0 |
| Daily Average Million Gallons Delivered to Boston | 97.8 | 102.1 | 106.0 | 109.6 | 110.7 | 110.9 |
| Percentage Million Gallons Furnished to the Total Met. Water District | 67.0 | 67.5 | 67.0 | 67.5 | 67.7 | 66.6 |

The works under the control of the Water Division as of December 31, 1946, includes nine storage reservoirs with 200 hundred square miles of tributary watershed; a surface of 8,600 acres; 60 miles of aqueduct; two hydroelectric power stations with a combined capacity of 7,000 horse power; 16 miles of high tension power transmission line; 6 distribution pumping stations with a combined capacity of 9,783 horse power and pumping capacity of 342,000,000 gallons a day; 13 distribution reservoirs with a capacity of 2,511.7 million gallons and 187.56 miles of distribution mains.

On December 13, 1945, an agreement was made with the Town of Winchester providing for the Metropolitan District Commission to furnish an emergency water supply to the West High Service District of the Town. The Town furnished and laid approximately 300 linear feet of 12-inch diameter cast-iron pipe, with appurtenant valves, chamber, meter, etc., from Forest Street at Dodge Street, Arlington, in Forest Street to the Winchester town line. Service through this connection began January 9, 1946. On May 15, 1946, an agreement was made with the Town of Winchester providing for the Metropolitan District Commission to furnish water to the West High Service District of the Town upon payment of an entrance fee of $4,515.67 and the transfer of the pipe line and appurtenances to the Metropolitan District Commission. The estimated population of the area supplied was 900.

On August 5, 1946, an agreement was made with the Town of Saugus providing for the Metropolitan District Commission to furnish water to the Town from our Northern High Service System with Fells Reservoir as the source. The Town agreed to pay the cost of its connection to the system, which requires the furnishing and laying of approximately 5,690 linear feet of 20-inch diameter cast-iron pipe from the Linden section of Malden to the Saugus town line. Contract No. 147 was made with Federico Construction Corporation, 70 Walnut Street, East Dedham, on August 28, 1946, to do this work.

The City of Waltham, through Mayor John F. Devane, filed a formal application on September 10, 1946, for membership in the Metropolitan Water District. During the remainder of the year, studies were made of the cost of pipe lines, pumping requirements, etc., to furnish water to the City.

The above agreements and application were based on the requirements of Chapter 92 of the General Laws as amended by Chapter 587 of the Acts of 1945.

Under the provisions of Chapter 587 of the Acts of 1945, beginning with the year 1946, the price of Metropolitan water was fixed at $40.00 per million gallons less any sums to be credited to the city or town supplied. Prior to 1946, cities and towns were charged various rates for the water consumed, based on the valuation of property and the total consumption in the city or town. Rates under this schedule varied from $67.36 to $130.19, with the cost to the 20 cities and towns in the District averaging $78.37 per million gallons for 1945, as compared with a flat rate of $40.00 per million gallons in 1946.

In keeping with the National Defense Program, Water Works buildings were kept locked and "No Admittance" signs were placed on all such buildings. Guarding of the vulnerable points of the Metropolitan Works against sabotage which had been maintained since the outbreak of the war was terminated in August, 1944.

## CONSTRUCTION

### Reinforcing Southern High Service Pipe Lines

*Contract 130* — The works of duplicating the main supplying Milton, Quincy and Dorchester District of Boston, under Contract 130, made with Edward M. Matz, Inc., of Jamaica Plain, on June 25, 1940, was completed August 29, 1941, at the total expenditure of $206,307.58. The principal item of work on this contract was the furnishing and laying of 10,624 linear feet of 48-inch welded steel pipe in the Arborway and Morton Street in Boston. The Contractor was furnished a force of laborers and semi-skilled laborers from the Works Project Administration.

### Northern Extra High Service

Plans and specifications for reinforcing the Northern Extra High Service was completed during the year 1941, and contracts awarded as follows: —

*Contract No. 131*, (W.P.A. Project W.D. 40-2) was made with Edward M. Matz, Inc., of Jamaica Plain, on March 18, 1941, the principal item being the furnishing and laying 4,800 linear feet of 24-inch electric-welded steel pipe. The Works Projects Administration furnished a specified labor force for use of the Contractor, consisting of superintendence, skilled, intermediate and unskilled labor and a specified amount of lumber. The Works Projects Administration withdrew from the project September 25, 1942, due to governmental demand on its rolls, the Administration being unable to furnish labor in sufficient quantity to make satisfactory progress and finally at the request of the U. S. Army different arrangements were made to complete the pipe lines.

An agreement dated October 15, 1942, was made with the Contractor for completing the work using his own labor and equipment at revised unit prices. Due to labor conditions, work progressed slowly and the time of completion was extended to September 30, 1943, by vote of the Commission. The pipe laying was completed June 26, 1943, and tested July 8, 1943. All work called for under this contract was completed September 29, 1943.

*Contract No. 135*, for furnishing and erecting a welded steel tank, 75 feet in diameter and 65 feet in height, on a foundation provided by the Commonwealth on Turkey Hill in Arlington was made with the Bethlehem Steel Company on June 3, 1941. Due to the inability of obtaining a sufficiently high priority from the United States Government for the release of steel plates for this tank, no field work was done in 1941, 1942, 1943 and 1944. In 1945, the Bethlehem Steel Company was able to proceed with the work and completed it as of May 24, 1945. Under test the tank provied to be perfectly tight against leakage.

*Contract No. 136*, for furnishing approximately 518 linear feet of 24-inch electric-welded steel pipe and miscellaneous pipe was awarded to the Walsh Holyoke Steam Boiler Works, Inc., on August 19, 1941. Due to difficulty of the Contractor in obtaining adequate priority to complete manufacture of the 24-inch steel pipe, only the miscellaneous pipe had been furnished by 1945 and the remaining portion of the contract was cancelled by release of January 4, 1945.

*Contract No. 138*, for furnishing and laying approximately 4,850 linear feet of 24-inch electric-welded steel pipe, approximately 5,350 linear feet of cable duct, constructing an 18-foot road from Forest Street up to and around Turkey Hill tank, and other miscellaneous items, in Arlington was made with Edward M. Matz, Inc., of Jamaica Plain on September 23, 1941. This pipe line was designed to connect with the pipe to be laid under Contract No. 131 and run to within approximately 500 feet of the proposed Turkey Hill Standpipe. Due to the inability of obtaining a sufficiently high priority from the United States Government for the release of steel plate for this pipe, no work was done during the years 1941, 1942 and 1943. During 1944, a substitution of 24-inch diameter cement-lined cast-iron pipe for the 24-inch diameter steel pipe was approved by the Director, and the length of pipe line increased to 5,330 linear feet under the provisions of Article XVII of the contract. On August 8, 1945, all work under this contract was completed.

*Contract No. 141*, for installing about 7,046 linear feet of 6-conductor lead-sheathed cable in underground conduit between the Arlington Pumping Station and Turkey Hill tank was made with Kenworthy and Taylor, Inc., on May 8, 1945. The work was completed on June 11, 1945.

*Contract No. 142*, for sandblasting and painting the Turkey Hill steel water tank and appurtenances in Arlington was made with Corey's Steeplejacks on May 29, 1945. The work was completed on July 24, 1945.

*Contract No. 149*, for furnishing and laying approximately 3,390 linear feet of 20-inch diameter cement lined cast-iron pipe in Summer Street, Arlington and Lexington, was made with Earl M. Carriere, 134 Whitford Street, Roslindale, on December 24, 1946. This line is intended to furnish the Town of Lexington with a new connection on the northeast boundary of the Town. No field work was done during the year.

### Northern High Service

*Contract No.* 144, for furnishing and laying approximately 4,300 linear feet of 24-inch diameter cement lined cast-iron pipe in Boston Avenue, Boston and Maine Railroad right-of-way, Newbern Avenue and Winchester Street, Medford, and Broadway to Cedar Street, Somerville, was made with John Williams, 8 Beechwood Street, Dorchester, on February 26, 1946. Field work was begun on March 18 with excavation for placing a 36-inch valve at Boston Avenue and Harris Road, Medford. The jacking method was used for the railroad crossing, employing 42-inch diameter 10-gage Armco iron pipe. On November 5, field work was completed, providing a supplementary supply to the High Service District of Somerville. The value of the work done under this contract during the year was $99,680.13.

*Contract No. 147*, for furnishing and laying approximately 5,690 linear feet of 20-inch diameter cement lined cast-iron pipe in Lynn Street, Malden and Revere; Salem Street, Revere, and Lincoln Avenue, Saugus, was made with Federico Construction Corporation, 70 Walnut Street, East Dedham, on August 28, 1946. No field work was done during the year.

*Contract No. 148*, for furnishing and laying approximately 3,680 linear feet of 36-inch diameter steel and 760 linear feet of 36-inch diameter cast-iron pipe and furnishing and laying a cable duct in Ravine Road and Middlesex Fells Park in Stoneham, was made with Edward M. Matz, Inc., 25 Huntington Avenue, Boston, on October 29, 1946. This line will provide a duplicate force main between the Spot Pond Pumping Station and the Fells Reservoir. Field work was begun on December 5, excavating for and laying cable duct. About 1½ per cent of the contract work was completed by the end of the year.

### Weston Aqueduct Supply Mains — Arlington Branch

*Contract No. 137*, for furnishing and laying approximately 6,570 linear feet of 24-inch diameter steel pipe was made with Edward M. Matz, Inc., on November 4, 1941. This pipe line, when completed, will be a duplicate suction main to the Arlington Pumping Station. A substitution of lock joint reinforced concrete pressure pipe for welded steel pipe was approved by the Director, under the provisions of Article XVII of the Contract. Work began in 1943 was completed on June 27, 1944.

### Stock for Improvements for Reinforcing Pipe Lines

*Contract No. 143*, was made with the Chapman Valve Manufacturing Company of Indian Orchard, Mass., on July 24, 1945, for furnishing 46 New York pattern screw lift valves, varying in size from 12 inches to 36 inches in diameter.

*Contract No. 145*, was made with the Chapman Valve Manufacturing Company of Indian Orchard, Mass., on April 2, 1946, for furnishing 83 New York pattern screw lift valves, varying in size from 6 inches to 36 inches in diameter. The total cost of this work was $21,206.00.

*Contract No. 146*, was made with Warren Foundry and Pipe Corporation, 75 Federal Street, Boston, Massachusetts, on April 30, 1946, for furnishing cast-iron water pipes and special castings, some of which were cement lined. The total cost of work paid for was $52,342.38.

## MAINTENANCE

### Precipitation and Yield of Watersheds

The average annual precipitation on the Wachusett Watershed for the years of 1941 to 1946 inclusive was 43.66 inches as compared with the 44 year average of 45.81 inches; on the Sudbury watershed, 41.67 inches as compared with the 66 year average of 44.71 inches; and on the Cochituate watershed 45.75 inches as compared with the 78 year average of 45.22 inches.

# TOTAL CAPACITY OF RESERVOIRS

| | Elevation[1] * | Total Capacity (Mil. Gals.) | Jan. 1. 1941 | | Jan. 1, 1942 | | Jan. 1, 1943 | | Jan. 1, 1944 | | Jan. 1, 1945 | | Jan. 1, 1946 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) | Elev.[1] of Water Surface | Avail. Storage (Mil. Gals.) |
| Cochituate Watershed: | | | | | | | | | | | | | | |
| Lake Cochituate | 144.36 | 2,097.1 | 143.32 | 1,754.0 | 142.14 | 1,480.3 | 143.80 | 1,867.2 | 142.50 | 1,563.2 | 143.24 | 1,735.5 | 142.84 | 1,642.1 |
| Sudbury Watershed: | | | | | | | | | | | | | | |
| Sudbury Reservoir | 260.00 | 7,253.5 | 256.95 | 4,739.0 | 257.06 | 4,784.0 | 258.62 | 5,423.6 | 256.67 | 4,625.9 | 257.00 | 4,759.6 | 257.06 | 4,784.0 |
| Framingham Res. No. 1 | 169.32 | 289.9 | 168.00 | 139.0 | 167.70 | 126.1 | 168.27 | 151.0 | 167.63 | 123.2 | 167.81 | 130.8 | 168.14 | 145.2 |
| Framingham Res. No. 2 | 177.12 | 529.9 | 176.33 | 446.0 | 176.08 | 435.2 | 176.38 | 448.0 | 175.89 | 427.1 | 176.18 | 439.4 | 176.43 | 450.2 |
| Framingham Res. No. 3 | 186.50 | 1,180.0 | 184.82 | 865.0 | 184.72 | 856.7 | 185.22 | 896.7 | 185.12 | 888.6 | 185.21 | 895.9 | 185.42 | 912.7 |
| Ashland Reservoir | 225.21 | 1,416.4 | 224.63 | 968.0 | 224.39 | 955.2 | 224.96 | 986.6 | 224.30 | 950.3 | 224.55 | 964.1 | 224.67 | 970.7 |
| Hopkinton Reservoir | 305.00 | 1,520.9 | 304.28 | 1,025.0 | 304.04 | 1,009.8 | 304.78 | 1,056.0 | 304.02 | 1,008.6 | 304.18 | 1,018.6 | 304.40 | 1,032.3 |
| Whitehall Reservoir | 337.91 | 1,256.9 | 336.60 | 697.0 | 336.97 | 767.5 | 337.64 | 897.1 | 337.53 | 875.7 | 337.55 | 879.6 | 336.91 | 756.0 |
| Wachusett Watershed: | | | | | | | | | | | | | | |
| Wachusett Reservoir | 396.50 | 67,000.0 | 381.79 | 37,324.0 | 371.26 | 26,603.0 | 362.55 | 19,105.5 | 371.10 | 26,455.7 | 370.16 | 25,599.8 | 388.57 | 45,531.0 |
| Totals | | 82,544.6 | | 47,957.0 | | 37,017.8 | | 30,831.7 | | 36,918.3 | | 36,423.3 | | 56,224.2 |

[1] Elevation in feet above Boston City Base.
*Full reservoir with flashboards on overflow.

The total storage capacity shown in the column entitled "Total Capacity" is to the bottom of the reservoir.
The available storage shown is the quantity that can be conveniently used in consumption.
There is a loss in available storage of 495,000,000 gallons during each year.

# RESERVIOR ELEVATIONS

*Wachusett Reservoir*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 381.79 | 371.26 | 362.55 | 371.1 | 370.16 | 388.57 |
| High Point | 382.62 | 379.69 | 381.04 | 379.35 | 391.83 | 395.35 |
| On | Apr. 14 | Apr. 21 | Sept. 8 | | July 21 | June 4 |
| Low Point | 365.96 | 360.25 | 363.85 | 365.67 | 366.65 | 382.94 |
| On | Sept. 17 | Nov. 24 | Mar. 1 | June 13 | Feb. 21 | Sept. 13 |

*Sudbury Reservoir*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 256.95 | 257.06 | 258.62 | 185.12 | 257.00 | 257.06 |
| High Point | 257.63 | 258.50 | 258.62 | 185.74 | 258.64 | 259.32 |
| On | Apr. 12 | Mar. 11 | Jan. 1 | June 25 | Mar. 24 | Mar. 8 |
| Low Point | 256.33 | 256.39 | 256.82 | 184.82 | 257.25 | 256.96 |
| On | Mar. 24 | Jan. 19 | Mar. 8 | Aug. 31 | Feb. 26 | Jan. 2 |

*Lake Cochituate*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 143.32 | 142.14 | 143.80 | 142.50 | 143.24 | 142.84 |
| High Point | 143.83 | 144.91 | 144.12 | 144.56 | 144.76 | 144.25 |
| On | July 2 | Mar. 10 | May 24 | Apr. 26 | Dec. 10 | Mar. 10, 11 |
| Low Point | 141.23 | 142.14 | 140.63 | 140.39 | 141.90 | 142.65 |
| On | Oct. 27 | Jan. 1 | Oct. 15 | Sept. 12 | Feb. 26 | Jan. 4 |

*Framingham Reservoir No. 1*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 168.00 | 167.70 | 168.27 | 167.63 | 167.81 | 168.14 |
| High Point | 168.29 | 168.38 | 168.27 | 168.29 | 168.46 | 168.72 |
| On | Feb. 8 | Dec. 2 | Jan. 1 | Apr. 25 | Dec. 8 | Mar. 8 |
| Low Point | 163.04 | 167.62 | 161.15 | 167.38 | 167.64 | 167.59 |
| On | Apr. 30 | Sept. 30 | June 18 | Sept. 1 | Oct. 4 | July 17 |

*Framingham Reservoir No. 2*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 176.33 | 176.08 | 176.38 | 175.89 | 176.18 | 176.43 |
| High Point | 176.62 | 176.76 | 176.38 | 176.60 | 176.70 | 176.71 |
| On | Feb. 8 | Dec. 2 | Jan. 1 | Apr. 25 | Dec. 8 | Mar. 9 |
| Low Point | 175.94 | 175.88 | 175.90 | 175.88 | 175.97 | 175.94 |
| On | Oct. 15 | Dec. 24 | Dec. 31 | Jan. 3 | Aug. 24 | July 17 |

*Framingham Reservoir No. 3*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 184.82 | 184.72 | 185.22 | 185.12 | 185.21 | 185.42 |
| High Point | 185.68 | 186.56 | 185.56 | 185.74 | 186.42 | 187.00 |
| On | Nov. 2 | Dec. 3 | Dec. 27 | June 25 | May 19 | Mar. 9 |
| Low Point | 183.56 | 184.27 | 184.77 | 184.82 | 184.73 | 183.57 |
| On | July 24 | Jan. 2 | Jan. 24 | Aug. 31 | Feb. 21 | Nov. 4 |

*Whitehall Reservoir*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 336.60 | 336.97 | 337.64 | 337.53 | 337.55 | 336.91 |
| High Point | 337.25 | 337.73 | 337.70 | 337.93 | 338.34 | 337.91 |
| On | July 1 | Mar. 23 | June 15 | Mar. 18 | June 22 | Oct.1 |
| Low Point | 336.19 | 335.81 | 336.50 | 335.62 | 335.80 | 336.61 |
| On | Mar. 19 | July 27 | Feb. 21 | Sept. 12 | Feb. 20 | Jan. 6 |

*Hopkinton Reservoir*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | | 304.04 | 304.78 | 304.02 | 304.18 | 304.40 |
| High Point | 304.97 | 304.78 | 305.33 | 305.05 | 305.32 | 305.34 |
| On | Aug. 2 | Dec. 31 | May 23 | June 28 | May 11 | May 28 |
| Low Point | 304.24 | 295.62 | 302.29 | 303.75 | 297.06 | 302.17 |
| On | Feb. 24 | July 29 | Feb. 23 | Sept. 12 | Feb. 26 | Mar. 5 |

*Ashland Reservoir*

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | | | 224.96 | 224.30 | 224.55 | 224.67 |
| High Point | 225.37 | 225.65 | 224.96 | 225.43 | 225.27 | 225.60 |
| On | Aug. 1 | July 30 | Jan. 1 | June 26 | May 11 | May 29 |
| Low Point | 219.92 | 224.34 | 222.72 | 224.29 | 219.44 | 223.21 |
| On | Feb. 19 | Jan. 12 | Feb. 24 | Jan. 2 | Feb. 27 | Mar. 5 |

***Farm Pond***

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| Elevation Jan. 1: | 159.50 | 159.64 | 158.61 | 158.23 | 158.41 | 158.54 |
| High Point | 159.50 | 158.97 | 158.97 | 158.69 | 158.91 | 158.79 |
| On | Jan. 1 | Mar. 17 | Jan. 1 | Nov. 30 | Dec. 10 | Mar. 16 |
| Low Point | 158.21 | 158.00 | 158.13 | 158.03 | 158.19 | 158.11 |
| On | Oct. 27 | Aug. 5 | Aug. 21 | Aug. 17 | Aug. 24 | July 20 |

The average daily yield per square mile of watershed for these 6 years was 963,800 from Wachusett as compared with the 44 year average of 1,125,000; 703,500 from Sudbury as compared with the 66 year average of 984,000; and 754,000 from Cochituate as compared with the 78 year average of 945,000.

*Wachusett Reservoir* — On September 23, 1941 the City of Worcester, for the first time exercised its rights to divert water from Quinapoxet Pond in Holden. As the elevation of the water in this pond was so low continuous pumping was impossible and in order to further supplement its supply the City of Worcester asked for and received permission to pump water from Wachusett Reservoir at the site of its former pumping station on the shore of the reservoir in Boylston. This pumping station was not operated after February 4, 1942.

On November 28, 1941 Contract No. 101-M for furnishing and erecting a chain link fence at Wachusett Dam in Clinton was awarded to the G. F. Wright Steel and Wire Co., of Worcester. On August 10, 1942, the work of erecting 1,930 feet of 18-foot non-climable chain link fence with five gates had been completed.

The usual work of cutting brush and weeds along the sides and margins of highways adjacent to the reservoir, also brooks and rivers which flow directly into the reservoir and along the north and south dikes and the reservoir bottom and exposed shore line was done.

The Wachusett Dam and adjacent structures and grounds were given the usual care.

The fish ladder at the circular dam at the head of the reservoir at Quinapoxet basin was in operation during the month of March through October of each of the calendar years.

Following the outbreak of the war on December 7, 1941 the Wachusett Dam and Power Plant was guarded by the Massachusetts State Guard, Massachusetts Motor Vehicle Inspectors and Metropolitan District Commission Police. The guarding terminated August 24, 1944.

A short-wave radio-telephone transmitter and receiver set was installed in the Wachusett Spa building and a remote control for this set was installed in the Superintendent's office in the power plant building.

The department building houses, boat house, Police Service Building and other structures were kept in good condition.

During the years 1945 and 1946, for the first time since 1938, the entire shore line of the reservoir, with the exception of the North and South Dikes was opened to the inhabitants of Boylston, Clinton, Sterling, West Boylston and the Metropolitan Water District for the privilege of fishing from July 1 to October 1. Permits were issued by the Water Division to those eligible.

*Sudbury Reservoir* — During the years 1942, 1945 and 1946 the water in the reservoir was treated with several thousand pounds of copper sulphate to prevent growth and spreading of Anabaena and Dinobyron organisms.

Brush weeds and grass were mowed and burned in the 40-foot fire guards, property lines and around the reservoir and along the shores of the reservoir.

Under the rights reserved by the Town of Southborough about 675 tons of ice was cut on the Sudbury Reservoir during the year 1941 for the use of the inhabitants of Southborough, no ice was cut during the years 1942 through 1946.

The filter beds for the Southborough swimming pool was cleaned as usual although no use had been made of this pool in recent years.

The grounds about the dam were kept in good condition. Miscellaneous repair work and painting was done on the departments buildings.

An open channel was kept above the dam during the winter months to prevent damage to the masonry.

During the year 1941 the roofs of the attendant's house and power house was repaired at the cost of $450.00.

The Massachusetts State Guard and Metropolitan District Police performed guard duty at the dam during the years 1943 through 1945.

*Lake Cochituate* — No water was drawn for the supply of the Metropolitan Water District during the years 1941 through 1946. During the year 1943, 55.5 million gallons was sent to the old Brookline Reservoir from July 8 to 18, inclusive, to fill it after it had been drawn down for cleaning.

The grounds and structures received the usual care and tributary brooks were cleaned of bushes and grass.

The low level of the lake in 1943 was caused by the wasting at the outlet dam at the request of the State Department of Public Health to dilute sewage entering the brook below the dam.

*Framingham Reservoirs No. 1 and 2* — No water was drawn from these two reservoirs for the supply of the Metropolitan Water District during the years 1941 through 1946.

The total water wasted over Dam No. 1 was 85,043 million gallons, or a daily average of 233 million gallons for the years 1941 through 1946. The daily flow of 1.5 million gallons was maintained during the years as required by Chapter 177 of the Acts of 1872.

Reservoir grounds, gatehouses, structures and roads were kept in good condition, extensive repairs and alterations were made at the Sudbury Section headquarters at Framingham Reservoir No. 1 to provide garage facilities, foreman's quarters, boat storage, etc.

Works Progress Administration Project No. 22857 for improvements to Neyhart Pond, a part of Framingham Reservoir No. 1 was completed.

Fishing was permitted in Reservoir No. 2 from July 1 to October 1 to residents of the Towns of Ashland and Framingham and the Metropolitan Water District.

*Framingham Reservoir No.* 3 — Flashboards at elevation 186.50 were kept in place at the overflow of the dam.

This reservoir was used primarily as a regulating reservoir in connection with the operation of the Sudbury Power Station and the Sudbury Aqueduct. All the water flowing through the Sudbury Aqueduct for the supply of the Metropolitan Water District and the Town of Framingham was drawn from Framingham Reservoir No. 3.

About 3,123.5 million gallons of water was wasted during the years 1942 and 1946, no water was wasted during the other four years.

The reservoir was treated with copper sulphate during the years 1942, 1945 and 1946.

Considerable work was done during the year 1946 on the face of the granite masonry wall of Dam No. 3 to stop the leakage through the joints. This dam has shown considerable leakage for many years and many attempts were made in the past years to prevent this leakage. A liquid preparation called "Stonhard Stontite" was mixed with Portland Cement and used to fill the joints of the wall.

The front of the spillway and gatehouse was kept free of ice during the winter months in order to relieve the pressure.

The shore, embankment and grounds around the reservoir and shrubs at the dam and gatehouse were given the usual care.

*Whitehall Reservoir* — A total of 2,200 million gallons of water was diverted through the pipe line to Hopkinton during the years 1942 and 1943. No water was diverted during the other four years.

A small flow was run through the pipe line to Hopkinton Reservoir during the winter months to prevent freezing.

Fishing was permitted in this reservoir from July 1 to October 1 for the years 1941 through 1946, the fishing was allowed to citizens of Hopkinton, Westborough, Southborough and the Metropolitan Water District under permits issued by the Commission.

*Hopkinton Reservoir* — About 3,157 million gallons of water was diverted to the Sudbury Reservoir during the years 1942 and 1943. Excess water was diverted into the Sudbury Reservoir. No water was drawn from the reservoir for the supply of the Metropolitan Water District during the years 1941, 1944, 1945 and 1946.

*Ashland Reservoir* — No water was drawn from the reservoir for the supply of the Metropolitan Water District during the six years. Excess water was wasted into the Sudbury River. All gates at the reservoir were maintained in operating condition.

*Farm Pond* — About 1,404 million gallons of water was wasted into the Sudbury River below Framingham Dam No. 1 during the years 1941 through 1946. The water of this pond is not used as a source of supply for the Metropolitan Water District.

Under rights granted by the Legislature, the Boston and Albany R.R., took from the pond and the wells which they constructed along the edge of the pond about 48.9 million gallons of water, the New York, New Haven and Hartford R.R., took about 83.7 million gallons of water from the pond during the years 1941 through 1946 for the use of their locomotives.

Grounds and structures received the usual care. A new building was erected at the new south dam on the outlet of Farm Pond near Montwaite, to house a new Morris Machine Works side suction type pump, 3,500 g.p.m. capacity connected directly to a continental enclosed type gasoline engine was installed, tested and kept ready for flood control purposes.

## AQUEDUCTS

### Wachusett, Weston, Sudbury and Cochituate Aqueducts

*Wachusett Aqueduct* — For data regarding the sources from which water has been drawn for the supply and average daily quantity of water flowing through the aqueduct for the Metropolitan System for the years 1941 through 1946, see Tables 6 and 7 of this report.

Of the total number of gallons drawn for the supply during the years 1941 through 1946, a total of 250,588 million gallons of water passed through the turbine and was used to generate electric energy through the years 1941 to 1947. The balance was by-passed around the turbines into the aqueducts during the nights, Saturday afternoons, Sundays and holidays at various intervals during the years in order to maintain the Sudbury and Norumbega Reservoir at the desired elevations.

During the six calendar years the Westborough Hospital (State) pumped about 470.9 million gallons of water from the Wachusett Aqueduct at the terminal chamber in Marlborough, this is equivalent to a consumption of about 215,023 gallons per day.

Metropolitan District Commission Police guarded the Assabet Bridge from the outbreak of the war December 7, 1941 to November 17, 1942.

Considerable difficulty was experienced with the West Berlin water supply, so-called, due to the lack of water, pollution of the supply and condition of the pipes. On July 18, 1941, the system was shut off completely following a report from our Sanitary Engineer that the water was polluted and unfit for use. After considerable discussion with occupants of the various properties using this water and with their attorney, it was decided to turn the water on again. After all users signed an agreement releasing the Commission from any responsibility should any sickness or other trouble occur through the use of the water, the water was turned on again July 19, 1941. Pending a ruling from the Attorney General regarding the responsibility of the Commission nothing was done in regard to repairing or maintaining the system as of December 31, 1946.

Grass, brush and weeds were mowed and disposed of along the cut and cover portion and the open channel portion of the aqueduct. Necessary fence repairs were made along the aqueduct right-of-way and the gates and sign posts had been kept in good condition. Approximately 3,000 gallons of asphalt was used in repairing driveways in 1946.

The flow of water through the aqueduct was restricted in 1941 through 1944 to 310 million gallons and in 1945 and 1946 to 305 million gallons per day in order that the leakage at the Assabet Bridge could be kept as low as possible, during the winter the flow was still further reduced to a rate not exceeding 270 million gallons per day.

It was necessary to treat the water flowing into the Wachusett Aqueduct with copper sulphate to destroy microscopical organisms such as Dinobryon, Synura, Uroglenopsis and Anabaena. A total of 87,490 pounds of copper sulphate was used in 1945 and 1946.

*Weston Aqueduct* — The aqueduct was in continuous service throughout the six calendar years with the exception of a few minor interruptions for making repairs.

A total of about 203,658 million gallons of water flowed from the Sudbury Reservoir to the Weston Reservoir during the six calendar years. Electric energy was generated before the water discharged into the Aqueduct.

In 1941 a wire fence 600 feet in length was erected on the aqueduct line at Mainstone Farm, Wayland. During the year 1942 alterations and repairs were made to the Department House, known as the "White Place in Nobscot," for occupation by the General Foreman, the alterations included a new heating system, new bathroom, new floors, etc.

No water was wasted from the aqueduct during the year.

The Massachusetts Department of Public Works started work of reconstructing Old Connecticut Path in Wayland in 1946, and because of this, two parcels of land, one at the Happy Hollow Siphon and the other near an intersection known as the Five Paths, owned by the Metropolitan District Commission, were conveyed to the Town of Wayland on September 12, 1946. A temporary surface was placed on the new road with the intention of completing the work in 1947.

Some copper sulphate was used in the water in the aqueduct influent to destroy microscopical organisms such as Anabaena and Dinobryon.

*Sudbury Aqueduct* — The Sudbury Aqueduct was in continuous operation during the six calendar years with the exception of a few short periods in 1945 when inspections were made of sluice gates in the gatehouse.

A parcel of aqueduct land, containing about 2,160 square feet and situated at the corner of Irving and Herbert Streets in Framingham was conveyed to the Town, in 1946, in order that the Commissioners of Middlesex County and the Town of Framingham might improve the highway at this location.

Brush, grass and weeds along the aqueduct were cut and disposed of. The usual care was taken of grounds and structures along the aqueduct. All aqueduct fences were repaired and painted. An old fence at Brook Street, South Natick, was replaced by 250 feet of new rail fence. A new highway fence, about 100 feet long, was built at Plymouth Road, Newton. Grounds, structures and equipment were maintained in good condition.

During periods of high rate of flow in the aqueduct, there is considerable leakage through the granite walls of the Ellis Street arch at Echo Bridge. In freezing weather, this causes a serious ice condition on Ellis Steeet. In November, 1945, a concrete catch basin was built and 10-inch cast-iron drain laid across the street to connect with an existing 12-inch drain which has an outlet at the Charles River.

Water was taken from the reservoir by the Town of Framingham and used for testing and turning over the pump at the Winter Street Station near Framingham Dam No. 1.

*Cochituate Aqueduct* — The aqueduct was not in use during the six calendar years for the supply of the Metropolitan Water District except for July 8 to 18, 1943 when water was discharged through it to the Brookline Reservoir when a total of 55.5 million gallons was used for cleaning and filling the reservoir.

For protection of the water supply 14.19 acres of land in Holden were acquired from George E. Wolfe, the buildings situated on this property were razed.

Names of several owners of premises where serious violations of the Sanitary Rules and Regulations have existed for a number of years on the Wachusett Watershed were submitted through the Attorney General's office to the District Attorney of the Middle district for prosecution. Some of the owners were indicted by the Grand Jury of the Middle District Court. Sanitary inspections and special attention was given to the operation of sewage filter beds and cesspools of the Mt. Pleasant House in Jeffersonville, Worcester County Trading School, Gates Terrace, St. Mark's School, Waverly Farm Dairy, Eastleigh Farm, Town of Southborough,

Mars land combined storage and filter beds, Sterling filter beds, Deerfoot Farm Company, Fay School, State Guard Barracks, cesspools on the Sudbury Watershed, South Sudbury Watershed, Wachusett Watershed, Gallowhere Chemical Corp., Marlborough Trunk Sewer, Sterling Furniture Co., Sterling Inn, Albert Carbone slaughterhouse cesspool.

Inadequate filter beds and cesspools were rebuilt to care for the sewage, sodium and calcium hyprochlorite were used for treatment of sewage effluent.

Piggeries on the watershed, continued to be a serious menace and some owners were indicted by the Grand Jury of the Middle District Court.

The Wallace and Tiernan portable chlorinator was used as needed. Copper sulphate was applied to the reservoirs as needed to eradicate microscopic organisms such as Dinobryon, Synura, Anabaena and Uroglenopsis.

The total yield of the two square miles of watershed of Marlborough Brook passed through the filter beds before entering the Sudbury River. Sanitary improvements were made on 47 premises located on the North Sudbury Watershed. Most of the pollution continues to be caused by the large number of dairy cattle and the extensive spreading of manure in the cultivation of the fields.

The Town of Framingham started late in the fall of 1946 to extend a sewer main along Pleasant Street which will eliminate several cesspools on the watershed of the Framingham Reservoir No. 3.

### Lake Cochituate and South Sudbury Watersheds

Several houses have been erected in the Town of Ashland, Hopkinton and Southborough within the South Sudbury Watershed. Sanitary inspections were made on these watersheds, constantly.

In 1941 arrangements were made with the officials of the Town of Hopkinton and the City of Marlborough to have the contents which are pumped from cesspools in Hopkinton dumped into the Marlborough sewer, the owners of which pay all expenses. The contents of cesspools pumped in the rural areas of Westborough are dumped into the Town of Westborough's sewer.

By deed, dated March 21, 1946, the Commission conveyed to William J. Downey 0.19 of an acre of Cochituate Aqueduct land at the corner of Varick Road and Waban Avenue, Newton.

### Sudbury Section Buildings

The department houses, gatehouses, siphon chambers and other buildings were maintained in good condition during the years.

The department house at Salem End Road, Framingham, was renovated. The roof was reshingled and a new chimney with fireplaces was constructed. The interior of the office building at 133 Hollis Street was painted and fluorescent lighting fixtures were installed. The heating system was converted to oil and the coal burning boiler, which was removed, was set up at the Salem End Road foreman's headquarters. The garage at Hollis Street was altered to accommodate longer wheel base cars. At the Cordaville Pumping Station, the floor surface was concreted where the pump and motor had been removed.

### Protection of the Water Supply

One Assistant Sanitary Engineer, one Junior Sanitary Engineer and one Assistant Bacteriologist, with aids, were employed to care for the chlorination works, algae control work and sanitary inspection in the Wachusett, Sudbury and Distribution Sections. This force also supervised the sanitary control of the Quabbin Section.

The work in the laboratories in Framingham and Boston consisted of making 24,623 tests for bacteria, a large portion of which were chemically tested, 11,243 biological tests from samples collected throughout the Storage and Distribution System. Field tests were made for pH, dissolved oxygen, carbon dioxide and residual chlorine tests.

The number of complaints received from the consumers during the six calendar years was 136, and upon investigation most of them were found to be on account of taste and color due to local conditions as the bacteriological analyses showed the water to be in good condition.

Throughout the year 1941, the color of the water over the entire system was the lowest in the entire history of the Biological Laboratory.

At all chlorinator stations, residual chlorine tests were made daily, except at Spot Pond, Fells Reservoir and Bear Hill Reservoir, where tests were made once or twice a week. Weekly bacterial examinations were made of the waters in various reservoirs and gatehouses before and after chlorination, and also from taps on consumer services. The bacterial content of the water was very low and no members of the Clio-Aerogenes group were recorded during the years.

*Wachusett and North Sudbury Watersheds* — During the years 1941 through 1946 about 300 dwelling buildings, a municipal electric light station, an oil pipe line terminal, a broadcasting station and a telephone building were built on the Wachusett Watershed, some of which were connected to the new public sewer in the Town of Holden which was built by the Metropolitan District Water Supply Commission and was accepted by the town in the fall of 1943. The connection of the High School in Holden has eliminated the largest source of pollution.

Several of the large manufacturing companies were required to connect either with the sewer systems or build new cesspools. Arrangements were made with the officials of the Town of Framingham to have the sewage which is pumped from cesspools in Ashland dumped into the Framingham sewer.

The Worcester Gas Company provided automatic pumps to keep the ground water table down so that tarry oils would not seep into the Sudbury Aqueduct. A steam ejector was installed by the Gas Company to remove tarry oils that at times accumulated above the inverted siphon chamber that passes under the Sudbury Aqueduct below the Gas plant.

Pumping operations at the Pegan Filter Pumping Station was discontinued on April 1, 1944 and the station closed and boarded up, the water flowing directly into Lake Cochituate without treatment.

## Distribution Reservoirs

All water drawn from the storage reservoirs for consumption in the Metropolitan Water District was sterilized before it was delivered to the Water District by being treated with ammonia and chlorine. The Sudbury Aqueduct supply was treated in the Aqueduct at Sherborn, the Weston Aqueduct supply was treated as the water left the Weston Reservoir. Water drawn from the Pressure Aqueduct was treated at Norumbega Reservoir and the portion of water which had passed through the open reservoirs after preliminary sterilization was again sterilized with chlorine and most cases with ammonia, at the following places:

*Chestnut Hill Reservoirs at Chestnut Hill Pumping Stations*
*Spot Pond at Pumping Station*
*Fisher Hill and Waban Hill Reservoirs*

The riprap at Fisher Hill Reservoir was treated with calcium hypochlorite as needed. The riprap at Basin No. 1 of Fells Reservoir was treated with calcium hypochlorite as needed. All water drawn from Bear Hill Reservior was treated with sodium hypochlorite as needed. Chlorine was also used for treating the water.

Copper sulphate was used for water treatment in all reservoirs when necessary.

*Permits* — During the years 1941 through 1946, 11,422 permits were issued to the inhabitants of the Metropolitan Water District and of the cities and towns in which certain Water Division storage reservoirs are located, giving them the right to fish from the shores of the reservoirs under conditions specified in the permits.

Rules and regulations governing boating and fishing in Lake Cochituate were adopted by the Commission on July 19, 1945.

## Clinton Sewage Disposal Works

The works constructed and maintained under the provisions of Chapter 557 of the Acts of 1898 for the disposing of the sewage of the Town of Clinton were operated daily throughout the years 1941 to 1947.

The sewage was pumped with the electrically driven 12-inch DeLaval centrifugal pump. The energy for operating the pump was furnished from the Wachusett power station over the transmission line passing along the streets of the town between that station and the pumping station, with the exception of a small quantity furnished by the Wachusett Electric Company for which no charges were made. During the year 1946 a new Morris non-clogging centrifugal sewage pump of 3-million gallons daily capacity, driven by a General Electric 40 horse-power electric motor furnished by the Starkweather Engineering Company, was mounted on the concrete foundation prepared for it and the piping installed.

Of the 3,419.4 million gallons of sewage pumped to the filtration area, during the years 1941 through 1946, 2,778.6 million gallons were applied to the 25, 1-acre sand filter beds after the heavy portion had settled out in the settling tanks and the balance 640.8 million gallons was passed through the settling tanks to the sludge beds before entering the brook tributary to the Nashua River.

The cost of operating the pumping station was $56,287.08 for the six years.

## Forestry

*Wachusett Section* — Land adjacent to highways in Boylston, Clinton, Northborough, Southborough and Westborough were cleared of hurricane-felled trees and brush and was replanted with seedlings received from the Belchertown Nursery of the Metropolitan District Water Supply Commission and the Department of Conservation Nursery. Areas burned over by forest fires were also replanted with seedlings.

During the years 1942 through 1946 the sum of $5,006.01 was derived in revenue from the sale of cord wood, some of which was on the stump and some hurricane-felled trees.

The following table indicates the number of seedlings received by this Commission for transplanting:

| Wachusett System | *1941* | *1942* | *1943* | *1944* | *1945* | *1946* |
|---|---|---|---|---|---|---|
| Red Pine | 40,000-4 yr. | 20,000-4 yr. | 45,000-4 yr. | 20,000-4 yr. | 6,000-6 yr.<br>5,000-5 yr.* | 1,500-4 yr.* |
| White Pine | | 13,000-4 yr. | 25,000-4 yr. | 10,000-4 yr.* | 2,000-5 yr.* | 5,500-5 yr.*<br>650-8 yr. |
| White Spruce | 59,100-4 yr. | 47,800-4 yr. | 1,500-4 yr. | | 500-4 yr. | |
| Norway Spruce | 30,000-4 yr. | 40,000-4 yr. | 3,500-4 yr. | | | 2,000-4 yr. |
| Red Spruce | 16,000-4 yr. | | | | | |
| Arbor Vitae | 28,000-4 yr. | 11,000-4 yr. | 4,000-4 yr.<br>450-4 yr.* | | 800-6 yr. | |
| Hemlock | | | 2,000-4 yr.* | 2,500-6 yr.* | 5,000-4 yr.* | 12,500-2 yr.*<br>7,000-6 yr.* |

* From M.D.W.S.C. Nursery in Belchertown.
All other seedlings from Department of Conservation Nursery.

Several hundred acres of land were planted with the above transplants on the watershed.

*Sudbury Section* — Forestry work during the years 1941 through 1946 consisted of trimming pines, cutting up the fallen and dead trees, cutting brush in the 40-foot fire guards and property lines, spraying with lead arsenic, cutting off and destroying pine weevil and creosoting gypsy moth egg masses and caterpillars.

The total acreage of artificially forested areas in the Sudbury section as of 1946 is about 425 acres, consisting of pine, spruce, hemlock and arbor vitae.

The few forest fires which occurred did the usual damage to the Commission's trees which were replaced with seedlings.

The Commission received from the Metropolitan District Water Supply Commission's nursery at Belchertown, 52,000 red pine, 48,000 white pine, 7,000 hemlock and 2,000 arbor vitae. There also was received from the Department of Conservation 3,000 arbor vitae. These seedlings were planted on areas which

had been cleared of hurricane-felled timber on the marginal lands of the reservoirs in Clinton, Boylston and Sterling and on land adjacent to the Wachusett Aqueduct in Marlborough, Northborough and Southborough, also in various locations around the reservoirs, aqueducts and miscellaneous areas.

Nurseries were maintained at Sudbury Reservoir, Framingham No. 1 and Lake Cochituate.

### Hydroelectric Service

The generation and sale of electric energy as a by-product in connection with the operation of the Metropolitan Water Works was provided for in Acts of 1895, Chapter 488, and the energy not required for Water Works use was sold under contract to the New England Power Company and the Boston Edison Company.

The hydroelectric power stations at the Wachusett Dam in Clinton and at the Sudbury Dam in Southborough are operated by the water drawn for consumption in the Water District from the reservoirs above these dams. The following is a tabulation of the kilowatt hours of electric energy delivereed at contract prices, the expenditures charged to the operation of both power stations and the Water Division transmission line:

| *Year* | *Kilowatt Hours* | *Value of Energy Delivered at Contract Prices* | *Expenditures for Operations* | *Total Profit* |
|---|---|---|---|---|
| 1941 | 9,843,094 | $60,078.59 | $51,509.72 | $ 8,568.87 |
| 1942 | 9,617,050 | 58,765.22 | 54,686.75 | 4,078.47 |
| 1943 | 10,780,300 | 65,794.14 | 58,021.64 | 7,772.50 |
| 1944 | 11,178,600 | 68,355.97 | 53,576.63 | 14,779.34 |
| 1945 | 10,056,700 | 61,529.54 | 61,932.88 | 403.34 |
| 1946 | 13,019,200 | 79,732.93 | 66,023.45 | 13,709.50 |

### Wachusett Dam Station

The power station was operated on the following number of working days during the years 1941 through 1946, being idle on Sundays and holidays throughout the six years:

| | |
|---|---|
| 1941 | 303 days |
| 1942 | 286 " |
| 1943 | 300 " |
| 1944 | 302 " |
| 1945 | 287 " |
| 1946 | 303 " |

It was not possible to operate the generators in the power stations at their most efficient setting throughout the years due to restricted capacity of the aqueduct and conditions at the Assabet Bridge. Repairs were made to exciters, oil breakers inspected and new installations made in the lightning arrestor house.

The statistics are as follows:

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| WACHUSETT DAM STATION: | | | | | | |
| Total energy developed (kw.hrs.) | 8,109,200 | 6,525,700 | 7,096,900 | 7,001,300 | 6,122,000 | 8,615,100 |
| Energy used at power station and storage yard (kw.hrs.) | 43,372 | 50,169 | 50,955 | 45,728 | 39,976 | 43,869 |
| Available energy (kw.hrs.) | 8,065,828 | 6,475,531 | 7,045,945 | 6,955,572 | 6,082,024 | 8,571,231 |
| Water used (M.G.) | 47,305.9 | 41,514.9 | 44,126.7 | 44,637.7 | 32,626.1 | 40,376.2 |
| Average head (feet) | 81.31 | 75.62 | 76.73 | 75.43 | 86.62 | 96.20 |
| Energy developed per million foot gallons (kw.hrs.) | 2.108 | 2.079 | 2.096 | 2.079 | 2.166 | 2.128 |
| Efficiency of station (per cent) | 67.09 | 66.15 | 66.70 | 66.17 | 68.94 | 70.58 |
| CREDITS: | | | | | | |
| Energy sold N. E. Power Co. and Boston Edison Co. | | | | | | |
| Kilowatt hours | 7,886,603 | 6,273,133 | 6,815,773 | 6,746,634 | 5,847,461 | 8,319,911 |
| at $0.00625 | $49,291.27 | $39,225.83 | $42,598.58 | $42,166.46 | $36,546.63 | $51,999.44 |
| Deduction of 2% as provided in contract | | | | | | |
| Kilowatt hours | 157,732 | 125,523 | 136,315 | 134,933 | 116,948 | 166,398 |
| at $0.00625 | $985.83 | $784.52 | $851.97 | $843.33 | $730.93 | $1,039.99 |
| Energy furnished Clinton Sewerage Pumping Station | | | | | | |
| Kilowatt hours | 179,225 | 199,398 | 230,172 | 208,938 | 234,563 | 251,320 |
| at $0.00625 | $1,120.16 | $1,246.24 | $1,438.58 | $1,305.86 | $1,466.02 | $1,570.75 |
| NET CREDITS: | $49,425.60 | $39,687.55 | $43,185.19 | $41,628.99 | $37,281.72 | $52,530.20 |
| CHARGES: | | | | | | |
| Superintendence | $1,310.78 | $1,903.95 | $1,972.07 | $1,461.12 | $1,678.50 | $1,747.60 |
| Labor, operating station | 10,519.79 | 11,237.14 | 11,606.90 | 9,822.88 | 12,179.52 | 13,169.85 |
| Repairs and supplies | 443.43 | 1,569.68 | 920.00 | 1,030.29 | 590.21 | 922.76 |
| Transmission line repairs and supplies | 1,184.84 | 920.28 | 2,469.85 | 107.96 | 141.79 | 185.15 |
| Charges | $13,458.84 | $15,631.05 | $16,968.82 | $12,422.25 | $14,590.02 | $16,025.36 |
| TAXES: | $5,825.00 | $5,825.00 | $5,500.00 | $5,500.00 | $5,825.00 | $6,100.00 |
| Administration, general supervision, interest and skinking fund | $11,209.26 | $11,256.46 | $11,304.52 | $11,025.21 | $11,468.82 | $12,115.45 |
| TOTAL CHARGES: | $30,493.10 | $32,712.51 | $33,773.34 | $28,947.46 | $31,883.84 | $34,240.81 |
| Profit (total credits minus charges) | $18,932.50 | $6,975.04 | $9,411.85 | $13,681.54 | $5,397.88 | $18,289.39 |
| Cost of available energy per thousand kilowatt hours | $3.781 | $5.052 | $4.793 | $4.162 | $5.242 | $3.995 |

## Sudbury Dam Station

The Sudbury Power Station was in operation the following number of working days:

| | |
|---|---|
| 1941 | 281 days |
| 1942 | 342 " |
| 1943 | 365 " |
| 1944 | 366 " |
| 1945 | 364 " |
| 1946 | 359 " |

The station operated on three shifts in 1941 and 1942; two shifts in 1943, 1944 1945 and 1946. In 1946 the No. 3 turbine was checked and overhauled.

The statistics are as follows:

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|---|---|---|---|---|---|---|
| SUDBURY DAM STATION: | | | | | | |
| Total energy developed (kw.hrs.) | 1,733,894 | 3,091,350 | 3,683,400 | 4,177,300 | 3,934,700 | 4,404,100 |
| Energy used at power station (kw.hrs.) | 29,415 | 38,921 | 65,970 | 60,988 | 55,050 | 51,665 |
| Available energy (kw.hrs.) | 1,704,479 | 3,052,429 | 3,617,430 | 4,116,312 | 3,879,650 | 4,352,435 |
| FRAMINGHAM RESERVOIR NO. 3 SERVICE: | | | | | | |
| Water used (million gallons) | 8,875.2 | 9,458.4 | 11,225.8 | 12,891.9 | 12,382.6 | 16,691.5 |
| Average head (feet) | 64.16 | 65.17 | 65.34 | 65.27 | 65.88 | 65.90 |
| WESTON AQUEDUCT SERVICE: | | | | | | |
| Water used (million gallons) | 5,403.6 | 21,286.3 | 25,839.9 | 27,956.3 | 23,927.4 | 19,746.8 |
| Average head (feet) | 37.33 | 38.15 | 38.35 | 38.15 | 38.46 | 39.08 |
| Energy developed per million foot gallons (kw. hrs.) | 2.229 | 2.164 | 2.136 | 2.189 | 2.267 | 2.353 |
| Efficiency of station (per cent) | 71.0 | 68.9 | 68.0 | 69.7 | 72.2 | 74.9 |
| CREDITS: | | | | | | |
| Energy sold Boston Edison Company | | | | | | |
| Kilowatt hours | 1,704,479 | 3,052,429 | 3,617,430 | 4,116,312 | 3,879,650 | 4,342,435 |
| at $0.00625 | $10,652.99 | $19,077.67 | $22,608.95 | $25,726.97 | $24,247.82 | $27,202.73 |
| CHARGES: | | | | | | |
| Superintendence | $1,879.73 | $1,106.55 | $846.19 | $1,144.91 | $1,803.58 | $1,636.31 |
| Labor, operating station | 10,697.94 | 12,447.25 | 15,039.38 | 15,166.38 | 18,220.88 | 19,003.96 |
| Repairs and supplies | 470.99 | 479.71 | 318.00 | 242.85 | 1,064.62 | 854.22 |
| Charges | $13,048.66 | $14,033.51 | $16,203.57 | $16,554.14 | $21,089.08 | $21,494.49 |
| TAXES: | | | | | | |
| Administration, general supervision, interest and sinking fund | 1,922.00 | 1,922.00 | 1,922.00 | 1,922.00 | 2,077.00 | 2,666.00 |
| | 6,045.96 | 6,018.73 | 6,122.73 | 6,153.03 | 6,882.96 | 7,622.15 |
| TOTAL CHARGES | $21,016.62 | $21,974.24 | $24,248.30 | $24,629.17 | $30,049.04 | $31,782.64 |
| Loss, Charges and Taxes, minus Credits | —$10,363.63 | —$2,896.57 | —$1,639.35 | +$1,097.80 | —$5,801.22 | —$4,579.91 |
| Cost of available energy per thousand kw.hrs. | $12.330 | $7.199 | $6.703 | $5.983 | $7.745 | $7.302 |

## Distribution Pumping Stations

Pumping for consumption in the Water Division was done at six stations, two at Chestnut Hill and one each at Spot Pond, Arlington, Belmont and Hyde Park, and all were operated by steam power, except the electrically-operated station at Belmont, one Diesel engine-driven pump at Spot Pond, and one electrically-operated centrifugal pump at both the Arlington and Hyde Park Stations. All the equipment is in first-class operative condition.

*Chestnut Hill Stations Nos. 1 and 2* — At Station No. 1, 2 vertical triple-expansion and 1 cross-compound engine-driven pumps and 2 steam-turbine-driven centrifugal pumps, with a rated capacity of 130 million gallons per day, were used to supply part of the Southern High Service System.

At Station No. 2, there were 4 vertical triple-expansion engine-driven pumps, with a rated capacity of 145 million gallons per day. One of these, a 40-million-gallon capacity pump, was used to supply the Southern High Service System and the others were held in reserve to pump into the Low Service System in case of interruption to the gravity Low Service mains.

Contract No. 100-M, signed on October 28, 1941, by John J. Hourihan of Boston for repairing roofs of Chestnut Hill Pumping Stations Nos. 1 and 2 and Chestnut Hill Machine Shop, and Pumping Stations in Hyde Park, Arlington and Belmont for $3,938.00 was completed March 19, 1942.

Contract No. 102-M, signed November 28, 1941, by the Welding and Engineering Company of Boston for reinforce welding three 98-inch diameter boilers at Chestnut Hill Pumping Station No. 2 for $1,200.00 was completed January 9, 1942.

The usual maintenance repairs to engines, pumps and boilers were made during the years.

*Spot Pond Station* — Up to and at the beginning of the year 1945 there were 4 pumping station units in this station, but only 3 were used for pumping service for the Northern High Service District. One of the pumping units, a Leavitt engine which was moved from the Mystic Pumping Station and erected in this station in 1899, was removed from this station and sold for scrap. The remaining 3 units were rated at 44 million gallons per day capacity.

A Diesel engine-driven centrifugal pump of 4 million gallons daily capacity, which was furnished and installed by Ralph P. Hall Inc., in 1941 under Contract No. 97 of the Metropolitan District Water Supply Commission was operated for the first time on February 24, 1941.

Under Contract No. 99-M of September 24, 1940, the General Electric Company furnished and installed a 25 kilowatt steam-turbine-driven alternating current generator, switchboard, instruments, miscellaneous motors, etc. Steam and exhaust piping, drains, foundations, etc., were installed by the Commission. The existing switchboard was wired for both alternating and direct current. The generator set was tested February 11, 1941 and proved acceptable.

The usual maintenance repairs to engines, pumps and boilers were made during the years.

*Arlington Station* — The 3 pumping units at this station, 2 horizontal cross-compound and 1 electrically-driven centrifugal, with a rated capacity of 8 million gallons per day, were used to supply the Northern Extra High Service. The usual maintenance repairs to pumping units, boilers and auxiliaries were made during the years.

In 1945 because of increased suction pressure and new force main construction reducing friction losses, the pumping lift at this station was considerably reduced. Due to limited steam generating capacity preventing full use of all steam-driven pumping equipment, the steam turbine and condenser of the centrifugal pumping unit were removed, one unit of the series pump uncoupled and a 150 horse-power, 440-volt used squirrel cage motor installed as a driver for the remaining pump. The used motor proved to be unsatisfactory and will be replaced by a new motor of the same type. A new rotating element of higher efficiency was ordered for the unit. The remaining pumping unit was removed for use at the Hyde Park Pumping Station.

*Hyde Park Station* — The 3 pumping units at this station, 2 horizontal cross-compound and 1 electrically-driven centrifugal, with a rated capacity of 9 million gallons per day, were used to supply the Southern High Extra Service. The electrically-driven centrifugal pumping unit consists of a 3-million-gallon daily capacity pump which was formerly one-half of a pumping unit installed at the Arlington Station, and is driven by a 125 horse-power 440-volt squirrel cage motor, mounted on a fabricated steel base. The unit was placed in operation on October 2, 1946.

In 1946 the plunger rods of engine No. 13 were investigated and the low pressure rod was found to be cracked and corroded. The defective portions of the rod were built up by electric welding and then machined to proper diameter.

All other pumping equipment and auxiliaries received the usual maintenance and repairs.

*Belmont Station* — The 2 electric-motor-driven centrifugal units, 6-million-gallons per day rated capacity, installed in this station, were used to supply the Intermediate High Service District. Only maintenance upkeep was required on equipment in this station.

An order was placed in May, 1946 with the Ingersoll-Rand Company for furnishing a 3.6-million-gallon daily capacity against 70 feet total dynamic head centrifugal pump directly connected to a 3-phase, 60-cycle, 2200-volt squirrel cage induction motor. The original pumping units were designed for a total dynamic head of 162 feet for operation with a suction pressure from Weston Reservoir. Since the introduction of water from the Norumbega Reservoir, the existing pumps operate at low efficiency due to the higher suction pressure.

Only maintenance upkeep was required on equipment in this station.

*Summary* — At the 5 stations which were operated by steam power, 154,600,-462,000 gallons of water were pumped during the six calendar years.

In addition, the Diesel engine-driven unit at Spot Pond Station pumped 1,377,-351,000 gallons to the Northern High Service District, the electric-motor-driven unit at Arlington Station pumped 29,932,282 gallons, the electric-motor-driven unit at Hyde Park Station pumped 582,100 gallons and, at Belmont Station, the electric-motor-driven units pumped 2,987,340,000 gallons.

The total water pumped at all the Distribution Pumping Stations was 158,994,-667,743 gallons.

The quantity pumped at the 2 stations at Chestnut Hill for the Southern High Service District was 119,925,913,900 gallons and, of this, 4,171,006,800 gallons were repumped at Hyde Park Pumping Station for the Southern Extra High Service District. During the year 1946 at Chestnut Hill Station No. 2, 4,496,600 gallons were pumped for the Low Service District.

At Spot Pond Station 26,766,591,500 gallons were pumped for the Northern High Service District and at Arlington Station 4,544,814,600 gallons were pumped for the Northern Extra High Service District during the six calendar years.

During the 6 years, 135,845,722 pounds of bituminous coal and 4,105,523 pounds of anthracite screenings were burned at the 5 stations operated by steam power. At Spot Pond Station, 59,284 gallons of Diesel oil was consumed. At Belmont Station, 1,526,000 kilowatt hours of electric power was used; at Arlington Station, 63,823 kilowatt hours of electric power was used during 1945 and 1946 and at Hyde Park Station, 612 kilowatt hours of electric power was used during 1946.

At the Chestnut Hill Machine and Carpenter Shops, various maintenance work was done and, in addition, considerable work for the various Sections of the Water Division was done, including new pump installations at Hyde Park Station and Clinton Sewerage Station, machining new and repairing old pump plunger rods for Spot Pond and Hyde Park Stations, machining and assembling parts for 6-inch automatic air valves, and doing miscellaneous work at generating stations, reservoir gatehouse and other installations.

The exterior of all the pumping stations and the machine shop and garage were painted.

## Distribution Reservoirs, Pipe Lines and Storage Yards

The locations, elevations and available capacities of the distribution reservoirs of the Metropolitan Water Works as of December 31, 1946 are shown in the following table:

| *Distribution Reservoirs and Locations* | *Elevation of High Water** | *Capacity in Gallons* |
|---|---|---|
| Low Service: | | |
| Spot Pond, Stoneham and Medford | 163.00 | 1,791,700,000 |
| Chestnut Hill Res., Brighton, Dist. of Boston | 134.00 | 391,394,000 |
| Weston Reservoir, Weston | 200.00 | 200,000,000 |
| Northern High Service: | | |
| Fells Reservoir, Stoneham | 271.00 | 41,333,000 |
| Bear Hill Reservoir, Stoneham | 300.00 | 2,450,000 |
| Northern Extra High Service: | | |
| Arlington Heights Standpipe, Arlington | 442.50 | 2,000,000 |
| Turkey Hill Standpipe, Arlington | 443.83 | 2,000,000 |
| Southern High Service: | | |
| Fisher Hill Reservoir, Brookline | 251.00 | 15,500,000 |
| Waban Hill Reservoir, Newton | 264.50 | 13,500,000 |
| Forbes Hill Reservoir, Quincy | 192.00 | 5,100,000 |
| Forbes Hill Standpipe, Quincy | 251.00 | 330,000 |
| Intermediate High Service: | | |
| Arlington High Service | 320.00 | 2,000,000 |
| Southern Extra High Service: | | |
| Bellevue Standpipe, W. Roxbury, Dist. of Boston | 375.00 | 2,500,000 |
| Total | – | 2,513,690,000 |

*Elevation in feet above Boston City Base.

During the month of December, 1941, a regular army Signal Corps searchlight battery was stationed at Fisher Hill Reservoir. In the spring of 1942, the regular Army took over guard duties at the Chestnut Hill Pumping Station, Spot Pond Pumping Station and the Weston Aqueduct Terminal Chamber. About May 1, 1943 the regular U. S. Army soldiers were relieved from their duties by the Massachusetts State Guard.

General maintenance work consisted of repairing breaks and leaks, operating, overhauling and repairing gate valves, cleaning pipe lines, reservations, changing meter charts and repairing meters, forestry and moth control work at the various distribution reservoirs, general maintenance work in caring for pumping station grounds and general maintenance of all pipe lines, reservoirs and structures in the distribution section.

Bradlee Basin at Chestnut Hill Reservoir and reservoirs at Waban Hill, Fisher Hill, Spot Pond, Arlington Intermediate, Fells and Bear Hill were in regular service. The reservoir at Forbes Hill was kept full and the Brookline Reservoir was kept partially full throughout the years as an emergency water supply.

The Mystic Reservoir and adjacent land was transferred to the Trustees of Tufts College by vote of the Commission on January 11, 1945. An easement was retained in the strip of land in which pipe lines are located and are now in use as part of the Distribution System.

Water tanks at Arlington Heights, Turkey Hill, Bellevue and Forbes Hill were in regular service.

Trees around the various reservoirs were sprayed with Scalecide or arsenic of lead for suppression of gypsy moths. Other forestry work consisted of essential pruning of trees and shrubs, breaking and disposing of leaves and removing dead trees and brush.

The pipe bridges over the Boston and Maine Railroad at Porter Square Cambridge, and Wesbter Avenue, Somerville, as well as other pipe bridges, were painted.

The Commission's house on Capen Street, Medford, was demolished during the year 1946.

The Lawrence Basin at Chestnut Hill Reservoir was not used for water supply purposes.

On account of an emergency condition arising from a break in the Cambridge Water System in 1941, the 30-inch connection gate off of the Metropolitan 48-inch low main surface main, section 11, at Cambridge Common was opened December 21 and closed December 30, allowing Cambridge to take water from the Metropolitan system for that period.

Considerable work was done in 1941 on section 26 of the Northern High Service pipe line due to the reconstruction of state highways and bridges in the city of Revere and town of Saugus by the State Department of Public Works. This work consisted of removing a 16-inch main over the Pines River and its branches and approaches, installing new steel pipe and specials on the bridge and adjusting the pipe to grade and line.

An 8-inch connection was made from section 26 and extended as a 6-inch line to the town of Saugus property line to supply water to Radio Station WHDH.

On July 17, 1941 the northerly portion of the 48-inch line of section 58, of the Southern High Service pipe line was placed in operation under Contract 130, other work in connection with this contract included the laying by the Distribution Section of 24-inch pipe connecting section 28 with section 39 at Washington and Morton Streets, West Roxbury, a cross connection made at section 58 and section 20 at the Arborway, easterly of Washington Street.

On July 23, 1943, water from Norumbega Reservoir was admitted to the pipe line running from Weston through Waltham, Belmont, Arlington and Medford to the Spot Pond Station. This line was formerly used on the Low Service System from Weston Reservoir. The increase of 72 feet in the hydraulic gradient at the source permits the use of this line to serve portions of the High Service District with the consequent reduction in the amount of water pumped from Chestnut Hill Pumping Station No. 1. This increased pressure also reduces the net lift required at the pumping stations in Belmont and Arlington.

Section 11, Arlington Branch of the Supply Pipe Lines, consisting of a 24-inch diameter reinforced concrete lock-joint pipe in a new suction main to the Arlington Pumping Station was placed in operation on March 3, 1944, also a new metered connection was made in 1944 on the Northern High Service lines, section 50, near Tufts Park, Medford, with the city of Medford's main. Through this connection it is possible to supply water from section 18 of the Northern High Service in case of an interruption of service through section 50 near Mystic River.

The house at the Mystic Shops, formerly used by the superintendent of the Distribution Section, was dismantled during the year 1945.

Sections 13, 14 and 15 of the Weston Aqueduct supply mains which formerly supplied water from the Weston Reservoir to the Low Service District were changed over on April 26, 1945, to supply water from the Norumbega Reservoir to the High Service District.

During the year 1946 sections 9, 10, 11, 12 and 16 were in operation under the head available from Norumbega Reservoir.

A connection was made on May 8, 1945 in Broadway, Chelsea, between section 8 of the Low Service pipe lines and the Chelsea Pipe Line supplying water to the U. S. Naval Hospital for emergency use.

The Commission approved, in 1945, a connection between section 62 of the Northern Extra High Service pipe lines and the town of Winchester but no water was delivered. The town of Stoneham requested of the Commission in 1945 a 4-inch section of Venturi meter No. 55 located at Main and South Streets, Stoneham to be replaced with throat section 5¼″ in diameter and the necessary register changes made, the altered meter was placed in operation July 18, 1945.

In 1945, a 16″ cross-over connection between sections 20 and 58 of the Southern High Service pipe lines at the Arborway and South Street, West Roxbury. Cross-over connections, 20 inches in diameter, between section 14 of the Supply pipe lines and section 24 of the Southern High Service pipe lines at St. James Street and Nonantum Road, Newton, and between section 14 of the Supply pipe lines and section 47 of the Southern High Service pipe lines at Brooks Street and Nonantum Road, Brighton, were completed in May. Through these connections, portions of the town of Watertown and the Watertown Arsenal can be supplied with water from Norumbega Reservoir, thereby reducing demands on the Chestnut Hill Pumping

Station No. 1. A 24″ inserting valve was installed in the suction main in Hyde Park Avenue in front of the pumping station. The valve installation was completed on December 11, 1945.

On January 12, 1945, with the authorization of the Commission on Administration and Finance and the Metropolitan District Commission, the emergency trucks were concentrated at the Mystic Shops Garage on the Mystic Valley Parkway in Somerville. An emergency crew, consisting of a sub-foreman, truck driver and two laborers, is on duty nights, Sundays and holidays, with one truck driver on duty during regular working hours.

*Breaks in Mains* — During the years 1941 and 1946 inclusive, there occurred four breaks in the systems mains costing $1,986.48 for repairs. There was $10,626.80 paid for claims for damage to the streets and property. Of this amount $6,308.68 was paid to the city of Boston for repairs to street surfaces.

*Recording gages* — Recording gages were maintained in 42 places throughout the Distribution System and were inspected, overhauled and tested.

*Regulating Valves* — All pressure regulating valves throughout the Distribution System were overhauled, tested and adjusted at various times through the years. As of December 31, 1946 there were 16 pressure regulating valves in the Distribution System, 10 of which are in service. The remaining 6 are kept ready for use in emergencies.

## Water Districts Supplied

The Metropolitan Water District includes 21 cities and towns, of which 18 received their entire supply of water from the Metropolitan Works as of 1946.

*Measurement of Water to Municipalities* — The water was delivered to the local systems through 85 Venturi meters varying in sizes from 6 to 60 inches in diameter and connected with 78 meter registers as of December 31, 1946 and in addition to the Venturi meters, there were 13 detector meters, 11 compound meters and 16 disc meters measuring water supplied at various places where the consumption was too small to be measured by a Venturi meter. Connected with the works, there were also 16 Venturi meters and registers located at pumping stations, on supply lines and cross-connections for use in checking quantities delivered to the districts.

*Consumption of Water* — The consumption of water in the 18 municipalities supplied entirely from the Metropolitan Works during the years 1941 through 1946 is as follows:

| *Year* | *No. of Gallons* | *Daily Average* | *Gallons Per Capita* | *Estimated Population* |
|---|---|---|---|---|
| 1941 | 53,035,599,000 | 145,303,000 | 104 | 1,396,120 |
| 1942 | 55,178,986,000 | 151,175,300 | 108 | 1,400,060 |
| 1943 | 57,624,606,000 | 157,875,600 | 112 | 1,404,010 |
| 1944 | 59,456,387,000 | 162,449,100 | 115 | 1,407,950 |
| 1945 | 59,703,878,000 | 163,572,300 | 115 | 1,424,110 |
| 1946 | 60,805,693,000 | 166,590,900 | 117 | 1,429,690 |

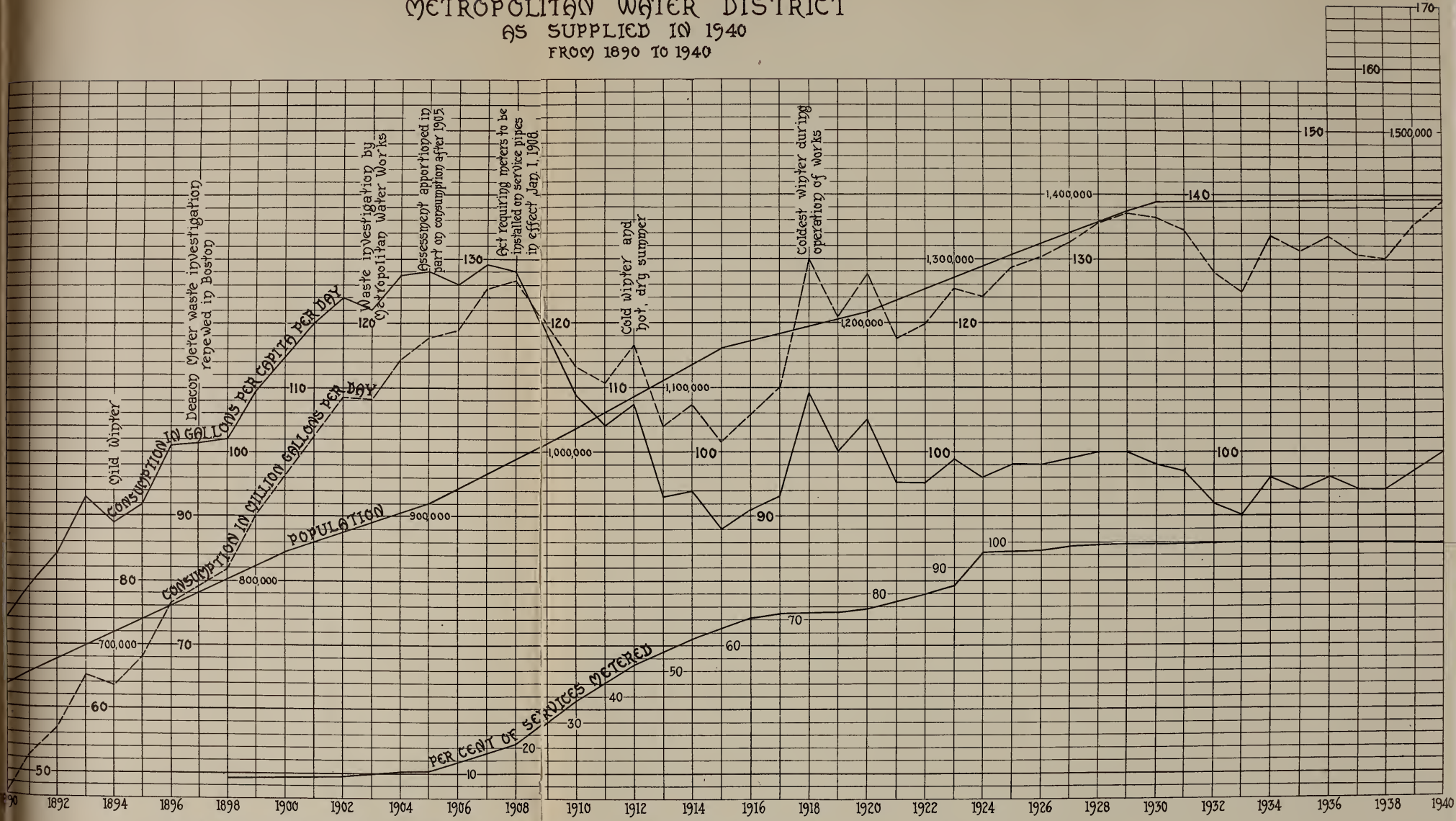
The city of Newton was furnished water from the Metropolitan Works as follows:

| *Year* | *Gallons Furnished* |
|---|---|
| 1941 | 60,490,000 |
| 1942 | 3,720,000 |
| 1943 | 27,610,000 |
| 1944 | 85,205,000 |
| 1945 | 7,250,000 |
| 1946 | 143,120,000 |

The city of Newton was entitled to 13,500,000 gallons free of charge under agreement made in 1900 until the year 1946 at which time a charge of $40 p.m.g. was made.

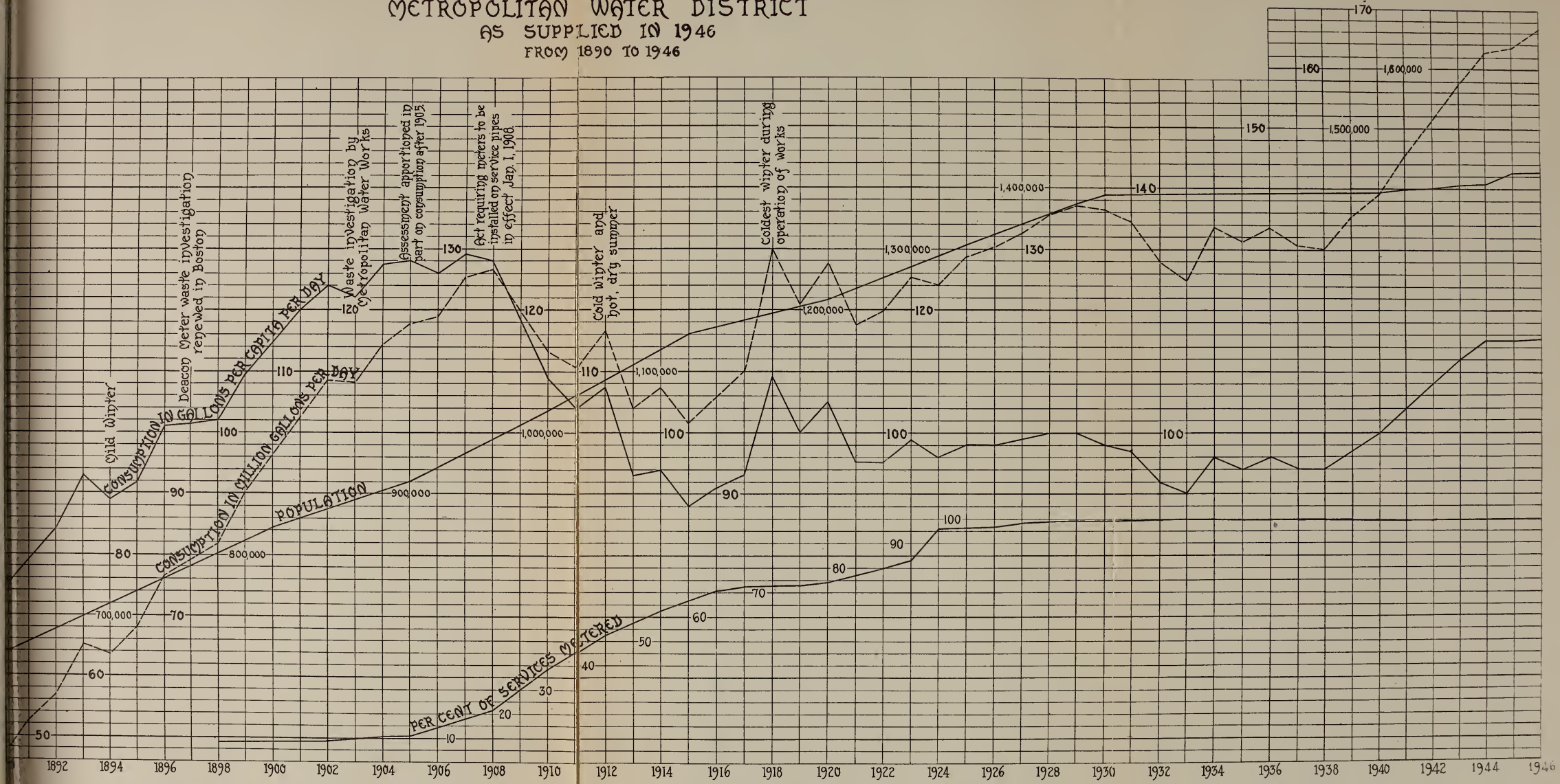
# POPULATION, CONSUMPTION OF WATER AND PER CENT OF SERVICES METERED IN THE METROPOLITAN WATER DISTRICT AS SUPPLIED IN 1940

FROM 1890 TO 1940




Note: Estimated population and consumption per capita given on diagrams published in previous annual reports are revised from time to time as regular census figures become available.

# POPULATION, CONSUMPTION OF WATER AND PER CENT OF SERVICES METERED IN THE METROPOLITAN WATER DISTRICT AS SUPPLIED IN 1946 FROM 1890 TO 1946




Note: Estimated population and consumption per capita given on diagrams published in previous annual reports are revised from time to time as regular census figures become available.

The town of Brookline was furnished water from the Metropolitan Works as follows:

| *Year* | *Gallons Furnished* |
|---|---|
| 1941 | 149,942,000 |
| 1942 | 1,763,247,000 |
| 1943 | 1,809,104,000 |
| 1944 | 1,829,972,000 |
| 1945 | 1,824,564,000 |
| 1946 | 1,892,324,000 |

Information regarding the Water Division contracts made and pending during the years 1941 through 1946 and the usual Water Works statistics are given in the accompanying tables.

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1941*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 2.99 | 2.71 | 2.30 | 0.73 | 2.49 | 3.45 | 5.10 | 3.16 | 0.78 | 2.63 | 2.92 | 3.38 | 32.64 |
| Jefferson | 4.44 | 2.93 | 2.99 | 0.99 | 1.94 | 3.23 | 3.71 | 3.23 | 0.72 | 2.57 | 2.85 | 3.86 | 33.46 |
| Sterling | 3.42 | 2.25 | 2.74 | 0.85 | 2.39 | 2.98 | 4.20 | 2.93 | 0.65 | 2.34 | 3.25 | 3.63 | 31.63 |
| Boylston | 3.77 | 2.30 | 2.48 | 0.87 | 2.13 | 2.24 | 1.83 | 2.75 | 0.69 | 2.24 | 3.32 | 3.32 | 27.94 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 3.87 | 1.97 | 2.88 | 1.21 | 2.34 | 4.08 | 3.29 | 3.21 | 0.61 | 1.71 | 2.80 | 3.56 | 31.53 |
| Framingham | 4.08 | 2.01 | 2.79 | 1.27 | 2.23 | 4.06 | 2.96 | 3.08 | 0.48 | 1.64 | 2.40 | 3.27 | 30.27 |
| Ashland Dam | 3.67 | 2.20 | 2.43 | 1.30 | 2.36 | 4.61 | 4.71 | 2.68 | 0.42 | 1.63 | 2.68 | 3.32 | 32.01 |
| Cordaville | 3.63 | 2.36 | 2.91 | 1.40 | 2.04 | 5.48 | 3.76 | 3.00 | 0.61 | 1.95 | 2.90 | 3.70 | 33.74 |
| *Lake Cochituate* | 4.02 | 2.40 | 2.75 | 1.47 | 2.28 | 4.32 | 2.90 | 2.93 | 0.60 | 1.88 | 3.04 | 3.77 | 32.36 |
| *Chestnut Hill Reservoir* | 3.03 | 1.66 | 2.10 | 1.68 | 2.23 | 3.97 | 3.38 | 3.00 | 0.47 | 2.00 | 2.69 | 3.26 | 29.47 |
| *Spot Pond* | 4.30 | 1.83 | 2.90 | 1.70 | 2.55 | 2.48 | 2.62 | 3.04 | 0.50 | 1.86 | 2.76 | 4.00 | 30.54 |
| Average of All | 3.75 | 2.24 | 2.66 | 1.22 | 2.27 | 3.72 | 3.50 | 3.00 | 0.59 | 2.04 | 2.88 | 3.55 | 31.42 |
| Average Wachusett Watershed | 3.65 | 2.55 | 2.63 | 0.86 | 2.24 | 2.97 | 3.71 | 3.02 | 0.71 | 2.44 | 3.09 | 3.55 | 31.42 |
| Average, Sudbury Watershed | 3.81 | 2.14 | 2.75 | 1.30 | 2.24 | 4.56 | 3.68 | 2.99 | 0.53 | 1.73 | 2.70 | 3.46 | 31.89 |

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1942*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 3.74 | 3.08 | 7.84 | 1.38 | 4.07 | 5.72 | 6.37 | 2.08 | 2.57 | 3.48 | 5.21 | 5.43 | 50.97 |
| Jefferson | 4.98 | 3.22 | 8.52 | 1.70 | 4.63 | 5.02 | 5.19 | 2.14 | 2.68 | 3.64 | 5.54 | 6.81 | 54.07 |
| Sterling | 4.53 | 2.90 | 7.59 | 1.41 | 4.32 | 5.24 | 5.12 | 2.02 | 2.35 | 3.56 | 5.06 | 5.78 | 49.88 |
| Boylston | 4.59 | 2.57 | 7.68 | 1.69 | 2.36 | 6.21 | 6.53 | 2.56 | 2.49 | 2.88 | 5.84 | 5.96 | 51.36 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 4.17 | 3.13 | 7.30 | 1.75 | 2.46 | 3.12 | 8.27 | 2.38 | 1.78 | 3.13 | 4.96 | 7.10 | 49.55 |
| Framingham | 4.54 | 2.79 | 7.02 | 1.73 | 2.19 | 3.47 | 8.01 | 2.18 | 1.88 | 3.11 | 4.99 | 6.90 | 48.81 |
| Ashland Dam | 4.45 | 2.88 | 7.43 | 1.60 | 2.46 | 2.86 | 7.60 | 2.43 | 1.71 | 3.32 | 5.04 | 6.89 | 48.67 |
| Cordaville | 4.52 | 3.04 | 7.79 | 1.85 | 2.94 | 2.88 | 7.74 | 2.35 | 2.19 | 3.24 | 5.41 | 7.17 | 51.12 |
| *Lake Cochituate* | 5.12 | 3.15 | 8.39 | 1.90 | 2.51 | 3.13 | 8.27 | 2.44 | 2.22 | 3.71 | 6.36 | 7.58 | 54.78 |
| *Chestnut Hill Reservoir* | 4.27 | 3.02 | 6.98 | 1.58 | 2.09 | 3.87 | 5.10 | 2.35 | 2.21 | 3.23 | 5.10 | 4.83 | 44.63 |
| *Spot Pond* | 4.44 | 3.72 | 7.78 | 2.06 | 2.45 | 3.99 | 3.21 | 2.74 | 2.22 | 3.30 | 4.89 | 5.31 | 46.11 |
| Average of All | 4.49 | 3.04 | 7.67 | 1.70 | 2.95 | 4.14 | 6.49 | 2.33 | 2.21 | 3.33 | 5.31 | 6.34 | 50.00 |
| Average, Wachusett Watershed | 4.46 | 2.94 | 7.91 | 1.55 | 3.84 | 5.55 | 5.80 | 2.20 | 2.52 | 3.39 | 5.41 | 6.00 | 51.57 |
| Average, Sudbury Watershed | 4.42 | 2.96 | 7.39 | 1.73 | 2.51 | 3.08 | 7.90 | 2.34 | 1.89 | 3.20 | 5.10 | 7.02 | 49.54 |

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1943*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 3.57 | 1.98 | 3.15 | 3.95 | 5.88 | 1.83 | 4.00 | 3.18 | 1.48 | 5.57 | 5.35 | 0.84 | 40.78 |
| Jefferson | 4.41 | 2.17 | 4.11 | 4.36 | 6.19 | 2.07 | 4.03 | 2.06 | 1.25 | 5.42 | 5.57 | 0.76 | 42.40 |
| Sterling | 3.43 | 1.65 | 3.16 | 3.74 | 5.56 | 1.65 | 4.04 | 2.17 | 1.52 | 5.81 | 4.95 | 0.72 | 38.40 |
| Boylston | 3.72 | 1.61 | 3.92 | 3.69 | 5.18 | 2.29 | 5.18 | 1.50 | 1.50 | 5.86 | 5.19 | 0.75 | 40.39 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 3.37 | 1.33 | 4.28 | 3.43 | 4.67 | 2.27 | 4.42 | 2.00 | 0.70 | 5.71 | 4.12 | 1.17 | 37.47 |
| Framingham | 3.28 | 1.49 | 3.85 | 3.56 | 4.43 | 2.04 | 4.29 | 1.87 | 0.85 | 5.60 | 3.83 | 1.15 | 36.24 |
| Ashland Dam | 3.53 | 1.45 | 3.98 | 3.51 | 5.03 | 1.77 | 5.12 | 1.73 | 0.80 | 5.60 | 3.56 | 1.12 | 37.20 |
| Cordaville | 3.30 | 1.67 | 4.10 | 3.66 | 5.07 | 2.60 | 5.00 | 1.60 | 1.04 | 6.07 | 4.28 | 1.37 | 39.76 |
| *Lake Cochituate* | 3.58 | 1.46 | 4.15 | 4.36 | 4.99 | 2.79 | 4.93 | 1.36 | 1.40 | 6.33 | 4.31 | 1.41 | 41.07 |
| *Chestnut Hill Reservoir* | 3.43 | 1.41 | 4.08 | 3.50 | 5.16 | 2.39 | 3.56 | 1.29 | 2.23 | 5.18 | 2.98 | 1.37 | 36.58 |
| *Spot Pond* | 4.08 | 1.42 | 4.52 | 3.48 | 5.35 | 1.99 | 4.54 | 1.90 | 1.59 | 5.91 | 4.02 | 1.19 | 39.99 |
| Average of All | 3.61 | 1.60 | 3.94 | 3.75 | 5.23 | 2.15 | 4.46 | 1.88 | 1.31 | 5.73 | 4.38 | 1.08 | 39.12 |
| Average, Wachusett Watershed | 3.78 | 1.85 | 3.59 | 3.93 | 5.70 | 1.96 | 4.31 | 2.23 | 1.44 | 5.67 | 5.26 | 0.77 | 40.49 |
| Average, Sudbury Watershed | 3.37 | 1.49 | 4.05 | 3.54 | 4.80 | 2.17 | 4.71 | 1.80 | 0.85 | 5.74 | 3.95 | 1.20 | 37.67 |

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1944*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 1.78 | 2.66 | 4.69 | 4.01 | 1.76 | 7.72 | 1.45 | 0.96 | 7.54 | 2.10 | 4.50 | 3.58 | 42.75 |
| Jefferson | 1.58 | 2.69 | 4.63 | 4.29 | 1.08 | 7.05 | 1.26 | 0.65 | 7.91 | 2.31 | 4.41 | 4.59 | 42.45 |
| Sterling | 1.65 | 2.66 | 4.52 | 4.50 | 1.17 | 9.04 | 1.06 | 0.63 | 6.33 | 2.26 | 4.61 | 4.16 | 42.59 |
| Boylston | 1.49 | 2.55 | 4.74 | 4.18 | 1.01 | 6.01 | 0.75 | 1.56 | 5.39 | 2.00 | 5.04 | 3.94 | 38.66 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 1.84 | 2.55 | 4.71 | 4.36 | 0.80 | 5.55 | 1.24 | 1.40 | 5.72 | 2.06 | 6.70 | 3.63 | 40.56 |
| Framingham | 1.71 | 2.66 | 4.67 | 4.52 | 0.89 | 5.71 | 2.08 | 1.33 | 5.96 | 1.99 | 6.43 | 3.50 | 41.45 |
| Ashland Dam | 1.78 | 2.37 | 4.50 | 4.74 | 1.02 | 4.66 | 2.05 | 2.51 | 7.01 | 2.23 | 6.27 | 3.37 | 42.51 |
| Cordaville | 1.74 | 2.83 | 4.82 | 5.12* | 0.94 | 4.58 | 1.82 | 1.37 | 6.62 | 2.08 | 6.77 | 3.60 | 42.29 |
| *Lake Cochituate* | 2.23 | 3.01 | 4.69 | 4.82 | 0.91 | 6.25 | 2.56 | 1.90 | 6.99 | 2.67 | 7.42 | 3.46 | 46.91 |
| *Chestnut Hill Reservoir* | 1.77 | 2.69 | 4.38 | 3.77 | 0.43 | 4.62 | 2.62 | 1.90 | 6.20 | 3.33 | 6.47 | 3.28 | 41.46 |
| *Spot Pond* | 3.05 | 2.60 | 4.70 | 4.22 | 0.72 | 5.25 | 1.85 | 2.74 | 6.61 | 2.86 | 7.52 | 3.97 | 46.09 |
| Average of All | 1.88 | 2.66 | 4.64 | 4.41 | 0.98 | 6.04 | 1.70 | 1.54 | 6.57 | 2.35 | 6.01 | 3.74 | 42.52 |
| Average, Wachusett Watershed | 1.63 | 2.64 | 4.65 | 4.25 | 1.26 | 7.46 | 1.14 | 0.95 | 6.79 | 2.17 | 4.64 | 4.07 | 41.61 |
| Average, Sudbury Watershed | 1.77 | 2.60 | 4.68 | 4.69 | 0.91 | 5.13 | 1.80 | 1.65 | 6.33 | 2.09 | 6.54 | 3.53 | 41.70 |

* Gage moved to Hopkinton.

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1945*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 3.21 | 4.43 | 2.50 | 4.21 | 5.48 | 6.16 | 5.24 | 3.60 | 1.76 | 2.40 | 4.99 | 6.46 | 50.44 |
| Jefferson | 4.19 | 4.39 | 2.20 | 4.66 | 5.48 | 5.75 | 5.79 | 3.33 | 2.84 | 2.36 | 5.50 | 6.56 | 53.05 |
| Sterling | 4.08 | 4.66 | 2.38 | 4.34 | 5.49 | 6.69 | 4.90 | 3.94 | 2.40 | 1.87 | 5.64 | 6.29 | 52.68 |
| Boylston | 3.87 | 4.53 | 2.81 | 3.63 | 5.11 | 6.06 | 4.55 | 4.02 | 2.32 | 1.96 | 5.85 | 5.56 | 50.27 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 3.08 | 5.22 | 2.13 | 3.08 | 5.16 | 6.60 | 3.32 | 4.00 | 1.66 | 2.29 | 7.12 | 6.55 | 50.21 |
| Framingham | 3.12 | 4.76 | 2.10 | 2.98 | 4.88 | 5.51 | 2.95 | 4.21 | 1.35 | 2.19 | 6.98 | 6.74 | 47.77 |
| Ashland Dam | 3.17 | 5.24 | 2.23 | 3.00 | 5.07 | 6.60 | 2.19 | 3.81 | 1.51 | 2.21 | 7.11 | 6.43 | 48.57 |
| Hopkinton | 3.01 | 5.28 | 2.36 | 3.10 | 5.16 | 6.18 | 2.66 | 4.89 | 1.84 | 2.30 | 7.02 | 6.28 | 50.08 |
| *Lake Cochituate* | 3.39 | 5.36 | 2.91 | 3.40 | 5.62 | 7.11 | 3.26 | 3.76 | 1.47 | 2.84 | 8.64 | 8.17 | 55.93 |
| *Chestnut Hill Reservoir* | 4.25 | 3.93 | 2.24 | 2.66 | 5.15 | 7.96 | 2.39 | 3.14 | 1.21 | 3.25 | 6.76 | 6.27 | 49.21 |
| *Spot Pond* | 5.51 | 4.96 | 2.41 | 3.45 | 5.07 | 5.62 | 3.41 | 3.81 | 1.31 | 3.66 | 9.12 | 7.19 | 55.52 |
| Average of All | 3.72 | 4.80 | 2.39 | 3.50 | 5.24 | 6.38 | 3.70 | 3.86 | 1.79 | 2.49 | 6.79 | 6.59 | 51.25 |
| Average, Wachusett Watershed | 3.84 | 4.50 | 2.47 | 4.21 | 5.39 | 6.17 | 5.12 | 3.72 | 2.33 | 2.15 | 5.50 | 6.22 | 51.61 |
| Average, Sudbury Watershed | 3.09 | 5.12 | 2.21 | 3.04 | 5.07 | 6.22 | 2.78 | 4.23 | 1.59 | 2.25 | 7.06 | 6.50 | 48.16 |

# APPENDIX No. 5

TABLE No. 1. — *Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works, 1946*

| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Wachusett Watershed* | | | | | | | | | | | | | |
| Princeton | 4.07 | 3.95 | 1.99 | 2.69 | 6.62 | 3.39 | 5.63 | 4.73 | 6.80 | 1.26 | 1.44 | 4.19 | 46.76 |
| Jefferson | 3.94 | 5.84 | 1.76 | 2.63 | 6.16 | 3.09 | 4.53 | 7.18 | 4.45 | 1.19 | 1.79 | 3.27 | 45.83 |
| Sterling | 3.69 | 3.77 | 1.73 | 2.70 | 5.82 | 3.07 | 4.06 | 6.33 | 6.73 | 0.82 | 1.18 | 5.16 | 45.06 |
| Boylston | 3.74 | 3.47 | 1.56 | 3.06 | 6.70 | 3.35 | 3.21 | 7.94 | 4.12 | 0.86 | 1.45 | 3.87 | 43.33 |
| *Sudbury Watershed* | | | | | | | | | | | | | |
| Sudbury Dam | 3.97 | 3.59 | 1.84 | 2.68 | 5.06 | 2.95 | 2.06 | 8.21 | 4.38 | 0.34 | 1.12 | 4.14 | 40.34 |
| Framingham | 3.79 | 3.42 | 1.64 | 2.85 | 5.09 | 2.89 | 1.92 | 8.70 | 4.66 | 0.50 | 1.28 | 4.19 | 40.93 |
| Ashland Dam | 3.89 | 3.26 | 1.66 | 2.56 | 4.87 | 2.76 | 1.39 | 8.73 | 4.47 | 0.39 | 1.26 | 4.13 | 39.37 |
| Hopkinton | 3.68 | 3.39 | 1.69 | 2.50 | 5.01 | 2.86 | 1.86 | 8.69 | 3.76 | 0.57 | 1.31 | 4.29 | 39.61 |
| *Lake Cochituate* | 3.98 | 3.47 | 1.92 | 3.47 | 5.90 | 3.75 | 1.63 | 9.34 | 3.41 | 0.44 | 1.41 | 4.70 | 43.42 |
| *Chestnut Hill Reservoir* | 3.66 | 3.52 | 1.71 | 2.64 | 5.51 | 3.14 | 2.98 | 9.65 | 2.53 | 0.39 | 1.22 | 3.90 | 40.85 |
| *Spot Pond* | 5.04 | 3.84 | 1.66 | 3.01 | 6.06 | 2.66 | 3.11 | 11.79 | 3.21 | 0.39 | 1.28 | 4.56 | 46.61 |
| Average of All | 3.95 | 3.78 | 1.74 | 2.80 | 5.71 | 3.08 | 2.94 | 8.30 | 4.41 | 0.65 | 1.34 | 4.22 | 42.92 |
| Average, Wachusett Watershed | 3.86 | 4.26 | 1.76 | 2.77 | 6.33 | 3.23 | 4.36 | 6.54 | 5.52 | 1.03 | 1.47 | 4.12 | 45.25 |
| Average, Sudbury Watershed | 3.83 | 3.41 | 1.71 | 2.65 | 5.01 | 2.86 | 1.81 | 8.58 | 4.32 | 0.45 | 1.24 | 4.19 | 40.06 |

TABLE NO. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1941*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Jan. 2 | 0.05[1] | 10.30 P.M. to |
| Jan. 3 | | 6.10 A.M. |
| Jan. 3 | 0.82[2] | 8.20 A.M. to |
| Jan. 4 | | 9.30 P.M. |
| Jan. 9 | 0.03[1] | 7.30 P.M. to |
| Jan. 10 | | 11.20 A.M. |
| Jan. 12 | Trace[1] | 4.10 P.M. to 5.05 P.M. |
| Jan. 16 | 1.13[2] | 3.05 P.M. to |
| Jan. 17 | | 8.30 A.M. |
| Jan. 24 | 1.00[1] | 4.30 P.M. to |
| Jan. 25 | | 4.40 A.M. |
| Total | 3.03 | |
| Feb. 2 | 0.08[1] | 10.00 A.M. to 6.45 P.M. |
| Feb. 7 | 1.17 | 9.45 A.M. to |
| Feb. 8 | | 2.30 A.M. |
| Feb. 14 | 0.17 | 10.25 A.M. to |
| Feb. 15 | | 2.30 P.M. |
| Feb. 17 | 0.01[1] | 8.15 P.M. to |
| Feb. 18 | | 3.45 A.M. |
| Feb. 28 | 0.23[1] | 8.00 P.M. to |
| Mar. 1 | | 6.10 A.M. |
| Total | 1.66 | |
| Mar. 1 | 0.01[1] | 8.10 A.M. to 10.30 A.M. |
| Mar. 4 | 0.02 | 1.30 A.M. to 2.10 A.M. |
| Mar. 4 | 0.03[1] | 10.30 A.M. to 5.35 P.M. |
| Mar. 8 | 0.93[1] | 7.45 P.M. to |
| Mar. 10 | | 3.50 A.M. |
| Mar. 11 | 0.39[2] | 6.30 P.M. to |
| Mar. 12 | | 5.10 P.M. |
| Mar. 16 | 0.02 | 7.20 A.M. to 11.30 A.M. |
| Mar. 17 | 0.12[2] | 8.10 A.M. to |
| Mar. 18 | | 6.50 A.M. |
| Mar. 24 | 0.58 | 3.15 P.M. to |
| Mar. 25 | | 11.20 P.M. |
| Total | 2.10 | |
| Apr. 5 | 0.46 | 4.20 P.M. to |
| Apr. 6 | | 6.45 A.M. |
| Apr. 13 | 0.12 | 5.45 P.M. to |
| Apr. 14 | | 5.30 A.M. |
| Apr. 17 | 0.08 | 8.10 A.M. to 11.45 A.M. |
| Apr. 23 | 0.75 | 10.05 P.M. to |
| Apr. 24 | | 10.30 A.M. |
| Apr. 27 | 0.28 | 8.15 A.M. to |
| Apr. 28 | | 1.20 A.M. |
| Apr. 30 | 0.04 | 7.15 P.M. to |
| May 1 | | 6.45 A.M. |
| Total | 1.68 | |

| DATE | AMOUNT | DURATION |
|---|---|---|
| May 1 | 0.38 | 7.30 A.M. to |
| May 2 | | 4.50 P.M. |
| May 5 | 0.12 | 5.45 A.M. to 11.30 A.M. |
| May 8 | 0.55 | 9.40 A.M. to 7.30 P.M. |
| May 10 | 0.61 | 1.30 A.M. to 1.30 P.M. |
| May 17 | 0.26 | 4.10 P.M. to |
| May 18 | | 3.10 A.M. |
| May 23 | 0.10 | 7.30 P.M. to |
| May 24 | | 6.10 A.M. |
| May 24 | 0.05 | 1.10 P.M. to 6.30 P.M. |
| May 27 | 0.05 | 10.10 A.M. to 2.30 P.M. |
| May 28 | 0.11 | 11.10 P.M. to |
| May 29 | | 2.00 A.M. |
| Total | 2.23 | |
| June 1 | 0.19 | 10.00 A.M. to |
| June 2 | | 9.30 A.M. |
| June 4 | 1.53 | 7.40 P.M. to |
| June 6 | | 4.45 A.M. |
| June 13 | 0.13 | 9.10 P.M. to |
| June 14 | | 11.30 A.M. |
| June 16 | 0.13 | 2.45 A.M. to 5.40 A.M. |
| June 16 | 0.41 | 7.40 A.M. to 6.15 P.M. |
| June 18 | 0.44 | 4.15 P.M. to 7.15 P.M. |
| June 20 | 0.45 | 3.45 P.M. to 6.10 P.M. |
| June 22 | 0.24 | 10.45 P.M. to |
| June 23 | | 6.15 A.M. |
| June 23 | 0.41 | 7.10 A.M. to 1.30 P.M. |
| June 29 | 0.04 | 2.30 P.M. to 5.30 P.M. |
| Total | 3.97 | |
| July 1 | 0.05 | 5.35 P.M. to 6.30 P.M. |
| July 3 | 0.05 | 10.15 P.M. to |
| July 4 | | 6.30 A.M. |
| July 7 | 0.09 | 10.30 P.M. to |
| July 8 | | 9.20 A.M. |
| July 12 | 0.95 | 8.00 A.M. to 8.30 P.M. |
| July 13 | 0.36 | 7.30 P.M. to 9.30 P.M. |
| July 17 | 0.09 | 12.10 P.M. to 4.05 P.M. |
| July 24 | 0.30 | 1.10 P.M. to 2.30 P.M. |
| July 25 | 0.01 | 9.40 P.M. to 11.30 P.M. |
| July 27 | 0.05 | 9.20 P.M. to 11.25 P.M. |
| July 28 | 1.10 | 12.30 P.M. to |
| July 29 | | 12.30 A.M. |
| July 30 | 0.30 | 10.15 A.M. to |
| July 31 | | 8.30 A.M. |
| July 31 | 0.03 | 7.30 P.M. to |
| Aug. 1 | | 8.15 A.M. |
| Total | 3.38 | |

[1] Snow.
[2] Rain and Snow.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1941*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Aug. 1 | 0.01 | 7.00 A.M. to 8.15 A.M. |
| Aug. 12 | 0.05 | 1.50 A.M. to 3.00 A.M. |
| Aug. 15 | 0.16 | 11.10 P.M. to |
| Aug. 16 | | 6.00 A.M. |
| Aug. 17 | 0.03 | 4.00 A.M. to 5.35 A.M. |
| Aug. 19 | 0.85 | 7.15 A.M. to |
| Aug. 20 | | 1.00 A.M. |
| Aug. 25 | 0.62 | 1.10 P.M. to 9.10 P.M. |
| Aug. 31 | 0.14 | 2.30 A.M. to 6.30 A.M. |
| Aug. 31 | 1.14 | 6.45 P.M. to |
| Sept. 1 | | 5.30 A.M. |
| Total | 3.00 | |
| Sept. 10 | 0.11 | 10.10 P.M. to |
| Sept. 11 | | 5.45 A.M. |
| Sept. 30 | 0.36 | 8.00 P.M. to |
| Oct. 1 | | 6.10 A.M. |
| Total | 0.47 | |
| Oct. 3 | 0.35 | 9.05 A.M. to |
| Oct. 4 | | 2.30 A.M. |
| Oct. 5 | 0.10 | 7.45 P.M. to 9.10 P.M. |
| Oct. 7 | 0.01 | 5.00 P.M. to 11.10 P.M. |
| Oct. 10 | 0.51 | 7.10 A.M. to 5.30 P.M. |
| Oct. 18 | 0.35 | 4.10 P.M. to |
| Oct. 19 | | 2.45 A.M. |
| Oct. 27 | 0.56 | 7.20 P.M. to |
| Oct. 28 | | 3.10 A.M. |
| Oct. 30 | 0.02 | 7.15 P.M. to |
| Oct. 31 | | 12.50 A.M. |
| Oct. 31 | 0.10 | 9.10 A.M. to |
| Nov. 1 | | 7.00 A.M. |
| Total | 2.00 | |

| DATE | AMOUNT | DURATION |
|---|---|---|
| Nov. 1 | 1.57 | 7.00 A.M. to |
| Nov. 2 | | 4.00 A.M. |
| Nov. 6 | 0.57 | 7.30 A.M. to |
| Nov. 7 | | 11.30 A.M. |
| Nov. 9 | 0.16 | 5.30 P.M. to |
| Nov. 10 | | 4.30 A.M. |
| Nov. 20 | 0.07 | 9.10 P.M. to |
| Nov. 21 | | 3.50 A.M. |
| Nov. 23 | 0.32 | 4.30 A.M. to 3.45 P.M. |
| Total | 2.69 | |
| Dec. 2 | 0.27 | 5.40 A.M. to |
| Dec. 3 | | 12.45 A.M. |
| Dec. 5 | 0.10 | 6.05 P.M. to 8.30 P.M. |
| Dec. 13 | 2.13 | 3.45 P.M. to |
| Dec. 14 | | 11.10 P.M. |
| Dec. 20 | 0.01 | 1.10 A.M. to 4.20 A.M. |
| Dec. 23 | 0.11 | 5.10 P.M. to |
| Dec. 24 | | 1.30 A.M. |
| Dec. 24 | 0.62 | 9.10 A.M. to 5.15 P.M. |
| Dec. 28 | 0.02[1] | 11.40 P.M. to |
| Dec. 29 | | 2.30 A.M. |
| Dec. 31 | Trace[1] | 10.45 P.M. to 11.50 P.M. |
| Total | 3.26 | |

[1] Snow.
[2] Rain and Snow.

Total for the year 29.47

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1942*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Jan. 1 to Feb. 1 | 0.69 | 8.15 P.M. to 11.30 A.M. |
| Jan. 4 | 0.85[2] | 1.30 A.M. to 5.10 P.M. |
| Jan. 10 | 0.32[1] | 12.45 A.M. to 10.30 A.M. |
| Jan. 16 | 0.02[1] | 4.25 A.M. to 5.25 A.M. |
| Jan. 19 to Jan. 20 | 1.74 | 8.00 A.M. to 12.45 A.M. |
| Jan. 27 | 0.02[1] | 3.30 A.M. to 6.30 A.M. |
| Jan. 31 to Feb. 1 | 0.63[2] | 2.20 P.M. to 1.20 A.M. |
| Total | 4.27 | |
| Feb. 5 to Feb. 8 | 2.19[2] | 8.00 A.M. to 8.55 A.M. |
| Feb. 16 to Feb. 17 | 0.73 | 8.30 P.M. to 6.30 A.M. |
| Feb. 19 | Trace[1] | 8.10 A.M. to 11.35 A.M. |
| Feb. 28 | 0.10[1] | 3.20 A.M. to 11.30 A.M. |
| Total | 3.02 | |
| Mar. 3 to Mar. 4 | 1.14 | 4.15 A.M. to 1.30 A.M. |
| Mar. 6 | 0.50[2] | 7.10 A.M. to 10.15 P.M. |
| Mar. 9 | 1.41 | 2.45 A.M. to 1.20 P.M. |
| Mar. 12 | 0.14 | 9.15 A.M. to 1.10 P.M. |
| Mar. 14 to Mar. 15 | 0.98[2] | 7.20 A.M. to 3.10 P.M. |
| Mar. 16 to Mar. 17 | 1.60[2] | 9.30 P.M. to 11.10 A.M. |
| Mar. 21 to Mar. 22 | 0.78[2] | 5.45 P.M. to 6.30 A.M. |
| Mar. 29 to Mar. 30 | 0.38[2] | 4.20 A.M. to 2.10 P.M. |
| Mar. 31 to Apr. 1 | 0.05 | 8.10 P.M. to 4.00 A.M. |
| Total | 6.98 | |
| Apr. 4 | 0.05 | 12.45 A.M. to 5.30 A.M. |
| Apr. 4 | 0.02 | 7.05 A.M. to 10.40 A.M. |
| Apr. 8 | 0.08 | 12.30 A.M. to 3.40 A.M. |
| Apr. 10 to Apr. 11 | 0.66[2] | 5.10 A.M. to 10.30 A.M. |
| Apr. 15 to Apr. 16 | 0.41 | 3.45 P.M. to 6.30 A.M. |
| Zpr. 18 | 0.08 | 1.10 A.M. to 6.10 A.M. |
| Apr. 20 | 0.20 | 4.45 A.M. to 9.30 P.M. |
| Apr. 21 | 0.08 | 1.15 P.M. to 4.30 P.M. |
| Total | 1.58 | |

| DATE | AMOUNT | DURATION |
|---|---|---|
| May 4 | 0.02 | 2.15 P.M. to 9.10 P.M. |
| May 6 to May 7 | 0.96 | 8.15 P.M. to 11.30 P.M. |
| May 12 to May 13 | 0.15 | 9.10 P.M. to 4.30 A.M. |
| May 17 to May 18 | 0.46 | 12.30 P.M. to 4.15 P.M. |
| May 21 | 0.07 | 12.30 P.M. to 4.10 P.M. |
| May 22 | 0.05 | 2.10 A.M. to 6.45 A.M. |
| May 31 | 0.38 | 1.05 A.M. to 5.30 A.M. |
| Total | 2.09 | |
| June 2 to June 3 | 0.03 | 10.10 A.M. to 6.40 A.M. |
| June 3 | 0.01 | 1.10 P.M. to 4.50 P.M. |
| June 4 to June 5 | 0.26 | 9.40 P.M. to 2.30 A.M. |
| June 7 to June 8 | 1.28 | 7.10 A.M. to 6.40 A.M. |
| June 14 to June 15 | 0.14 | 11.45 P.M. to 6.50 A.M. |
| June 16 to June 17 | 0.39 | 7.30 P.M. to 9.30 A.M. |
| June 17 to June 18 | 0.06 | 9.10 P.M. to 10.30 A.M. |
| June 19 to June 20 | 1.21 | 10.15 P.M. to 2.30 A.M. |
| June 21 | 0.05 | 11.10 A.M. to 7.20 P.M. |
| June 23 | 0.36 | 3.20 A.M. to 10.05 P.M. |
| June 25 | 0.07 | 11.40 A.M. to 4.15 P.M. |
| June 28 | 0.01 | 1.10 P.M. to 4.20 P.M. |
| Total | 3.87 | |
| July 2 to July 3 | 1.56 | 7.20 A.M. to 6.55 A.M. |
| July 6 | 0.46 | 7.10 P.M. to 10.30 P.M. |
| July 11 | 0.13 | 3.55 A.M. to 4.15 P.M. |
| July 14 | 0.40 | 3.20 P.M. to 4.30 P.M. |
| July 18 | 0.26 | 3.15 A.M. to 7.30 P.M. |
| July 27 to July 28 | 0.55 | 9.30 A.M. to 8.40 A.M. |
| July 29 to July 30 | 1.62 | 3.45 P.M. to 1.20 P.M. |
| July 31 | 0.12 | 4.10 P.M. to 10.20 P.M. |
| Total | 5.10 | |
| Aug. 9 | 0.88 | 7.30 A.M. to 12.00 M'D |
| Aug. 13 to Aug. 14 | 0.97 | 11.25 A.M. to 4.20 P.M. |
| Aug. 17 to Aug. 18 | 0.41 | 5.30 A.M. to 2.30 A.M. |
| Aug. 23 to Aug. 24 | 0.02 | 11.20 P.M. to 2.10 A.M. |
| Aug. 29 | 0.07 | 3.45 A.M. to 6.30 A.M. |
| Total | 2.35 | |

[1] Snow.
[2] Rain and Snow.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1942*

| DATE | AMOUNT | DURATION | DATE | AMOUNT | DURATION |
|---|---|---|---|---|---|
| Sept. 4 | 0.04 | 10.20 A.M. to 3.30 P.M. | Nov. 1 | 0.24 | 7.00 A.M. to 11.10 A.M. |
| Sept. 8 | 1.13 | 6.10 P.M. to | Nov. 3 | 0.17 | 2.00 A.M. to 6.30 A.M. |
| Sept. 10 | | 3.10 A.M. | Nov. 3 | 0.61 | 8.20 A.M. to 4.30 P.M. |
| Sept. 11 | 0.06 | 9.30 A.M. to | Nov. 10 | 0.69 | 6.30 P.M. to 11.30 P.M. |
| Sept. 12 | | 6.10 A.M. | Nov. 13 | 0.10[2] | 2.10 A.M. to 10.10 A.M. |
| Sept. 13 | 0.03 | 2.30 A.M. to 4.10 A.M. | Nov. 18 | 0.35 | 4.00 A.M. to 11.45 A.M. |
| Sept. 15 | 0.04 | 7.15 A.M. to 10.45 A.M. | Nov. 21 | 0.62 | 3.00 A.M. to 11.45 A.M. |
| Sept. 20 | 0.32 | 11.15 A.M. to 4.45 P.M. | Nov. 24 | 2.00 | 4.15 A.M. to |
| Sept. 27 | 0.59 | 11.10 P.M. to | Nov. 27 | | 3.30 P.M. |
| Sept. 28 | | 6.55 A.M. | Nov. 29 | 0.32 | 3.55 P.M. to 12.00 M'D |
| Total | 2.21 | | Total | 5.10 | |
| Oct. 4 | 0.04 | 10.00 P.M. to | Dec. 1 | 1.91 | 8.30 P.M. to |
| Oct. 5 | | 2.00 A.M. | Dec. 2 | | 10.00 A.M. |
| Oct. 5 | 0.59 | 9.15 P.M. to | Dec. 13 | 0.23[1] | 12.45 P.M. to 8.00 P.M. |
| Oct. 6 | | 6.30 A.M. | Dec. 16 | 0.03[1] | 3.10 A.M. to 6.45 A.M. |
| Oct. 17 | 1.20 | 10.30 P.M. to | Dec. 17 | 0.20[1] | 10.00 P.M. to |
| Oct. 18 | | 6.50 A.M. | Dec. 18 | | 6.45 A.M. |
| Oct. 21 | 1.17 | 5.05 P.M. to | Dec 22 | 0.12 | 7.15 P.M. to |
| Oct. 22 | | 6.30 A.M. | Dec. 23 | | 2.45 A.M. |
| Oct. 24 | 0.04 | 2.45 A.M. to 5.20 A.M. | Dec. 28 | 2.34 | 12.30 A.M. to |
| Oct. 25 | 0.14 | 11.10 P.M. to | Dec. 30 | | 7.30 P.M. |
| Oct. 26 | | 7.15 P.M. | | | |
| Nov. 1 | 0.05 | 5.20 A.M. to 7.00 A.M. | Total | 4.83 | |
| Total | 3.23 | | | | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 44.63.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reesrvoir — 1943*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Jan. 4 | 0.42[2] | 3.30 A.M. to 7.10 P.M. |
| Jan. 15 | 0.13 | 12.20 A.M. to 6.45 A.M. |
| Jan. 16 | 0.28[1] | 7.30 A.M. to 1.30 P.M. |
| Jan. 18 | 0.90 | 8.10 A.M. to |
| Jan. 19 | | 2.45 P.M. |
| Jan. 23 | 0.13 | 5.05 P.M. to 9.30 P.M. |
| Jan. 27 | 0.06[1] | 3.20 A.M. to 6.45 A.M. |
| Jan. 28 | 1.00[1] | 1.40 P.M. to |
| Jan. 29 | | 2.15 A.M. |
| Jan. 30 | 0.51[1] | 8.10 P.M. to |
| Jan. 31 | | 12.30 P.M. |
| Total | 3.43 | |
| Feb. 1 | 0.02 | 8.10 A.M. to 2.30 P.M. |
| Feb. 4 | 0.08 | 11.55 A.M. to |
| Feb. 5 | | 4.10 A.M. |
| Feb. 7 | 0.39 | 1.10 A.M. to 5.20 A.M. |
| Feb. 10 | 0.01 | 9.10 A.M. to 2.20 P.M. |
| Feb. 11 | 0.28 | 8.20 A.M. to 8.30 P.M. |
| Feb. 13 | 0.34[1] | 1.30 P.M. to |
| Feb. 14 | | 1.45 A.M. |
| Feb. 24 | 0.08 | 2.15 P.M. to 5.10 P.M. |
| Feb. 26 | 0.21[1] | 8.00 P.M. to |
| Feb. 27 | | 5.10 A.M. |
| Total | 1.41 | |
| Mar. 3 | 0.24[1] | 1.10 A.M. to 8.45 P.M. |
| Mar. 6 | 2.24[2] | 8.30 A.M. to |
| Mar. 7 | | 1.30 A.M. |
| Mar. 12 | 0.01 | 3.50 A.M. to 4.10 A.M. |
| Mar. 12 | 0.04 | 10.05 A.M. to 11.50 A.M. |
| Mar. 13 | Trace[1] | 2.15 P.M. to 6.30 P.M. |
| Mar. 16 | 0.51 | 7.15 A.M. to 9.00 P.M. |
| Mar. 17 | 0.32 | 8.00 A.M. to 6.00 P.M. |
| Mar. 19 | 0.70 | 7.00 A.M. to 12.00 M'D |
| Mar. 30 | 0.02[1] | 8.00 A.M. to 5.30 P.M. |
| Total | 4.08 | |
| Apr. 2 | 0.05 | 6.10 P.M. to 7.30 P.M. |
| Apr. 3 | 0.02[1] | 7.10 A.M. to 11.20 P.M. |
| Apr. 5 | 0.02 | 5.30 A.M. to 6.55 A.M. |
| Apr. 12 | 0.43 | 6.15 P.M. to |
| Apr. 13 | | 12.30 A.M. |
| Apr. 13 | 0.81 | 10.25 P.M. to |
| Apr. 14 | | 2.30 A.M. |
| Apr. 16 | 0.40 | 11.20 P.M. to |
| Apr. 17 | | 8.30 P.M. |
| Apr. 19 | 0.42 | 3.30 P.M. to |
| Apr. 20 | | 6.50 A.M. |
| Apr. 21 | 0.14 | 10.55 A.M. to |
| Apr. 22 | | 11.30 A.M. |
| Apr. 27 | 0.76 | 6.15 P.M. to |
| Apr. 28 | | 5.40 A.M. |
| Apr. 30 | 0.45 | 12.10 P.M. to 5.30 P.M. |
| Total | 3.50 | |

| DATE | AMOUNT | DURATION |
|---|---|---|
| May 3 | 0.69 | 1.30 A.M. to 4.10 P.M. |
| May 6 | 0.14 | 3.10 P.M. to 11.30 P.M. |
| May 7 | 0.15 | 9.30 P.M. to 11.45 P.M. |
| May 8 | 0.16 | 7.40 P.M. to |
| May 9 | | 2.30 A.M. |
| May 10 | 0.91 | 8.10 A.M. to |
| May 12 | | 11.30 P.M. |
| May 13 | 0.03 | 11.20 P.M. to |
| May 14 | | 1.20 A.M. |
| May 18 | 0.41 | 11.15 P.M. to |
| May 19 | | 1.00 A.M. |
| May 19 | 0.99 | 11.25 P.M. to |
| May 20 | | 11.30 A.M. |
| May 21 | 1.43 | 10.45 A.M. to |
| May 22 | | 12.30 P.M. |
| May 26 | 0.09 | 11.30 A.M. to 5.15 P.M. |
| May 27 | 0.05 | 5.45 P.M. to 6.30 P.M. |
| May 29 | 0.11 | 9.05 P.M. to 11.20 P.M. |
| Total | 5.16 | |
| June 1 | 0.05 | 2.15 P.M. to |
| June 2 | | 1.10 A.M. |
| June 7 | 0.29 | 12.30 P.M. to 11.30 P.M. |
| June 10 | 0.06 | 8.30 P.M. to |
| June 11 | | 1.10 A.M. |
| June 13 | 0.95 | 4.30 P.M. to 8.10 P.M. |
| June 17 | 0.61 | 11.10 P.M. to |
| June 18 | | 1.20 A.M. |
| June 20 | 0.02 | 6.30 P.M. to 7.10 P.M. |
| June 21 | 0.31 | 10.45 P.M. to 11.40 P.M. |
| June 29 | 0.10 | 1.30 P.M. to |
| June 30 | | 3.25 A.M. |
| Total | 2.39 | |
| July 5 | 0.47 | 4.00 A.M. to 4.30 P.M. |
| July 7 | 0.25 | 4.30 P.M. to 11.30 P.M. |
| July 11 | 0.07 | 4.00 P.M. to 5.30 P.M. |
| July 13 | 0.04 | 12.30 P.M. to 3.10 P.M. |
| July 18 | 0.07 | 3.10 A.M. to 4.30 A.M. |
| July 20 | 0.02 | 7.05 P.M. to 8.30 P.M. |
| July 22 | 0.03 | 1.23 A.M. to 2.30 A.M. |
| July 22 | 0.69 | 8.10 A.M. to 10.30 P.M. |
| July 25 | 0.35 | 8.30 A.M. to |
| July 26 | | 4.30 A.M. |
| July 27 | 0.01 | 11.10 P.M. to |
| July 28 | | 12.55 A.M. |
| July 29 | 1.39 | 8.30 A.M. to |
| July 30 | | 2.30 A.M. |
| July 31 | 0.17 | 8.20 P.M. to 11.30 P.M. |
| Total | 3.56 | |

[1] Snow.
[2] Rain and Snow.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1943*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Aug. 3 | 0.04 | 8.25 P.M. to 9.00 P.M. |
| Aug. 4 | 0.01 | 5.00 P.M. to 5.30 P.M. |
| Aug. 10 | 0.08 | 8.10 A.M. to 3.40 P.M. |
| Aug. 11 | 0.06 | 10.40 P.M. to 11.20 P.M. |
| Aug. 12 | 0.40 | 8.45 P.M. to |
| Aug. 13 | | 6.45 A.M. |
| Aug. 13 | 0.35 | 11.50 P.M. to |
| Aug. 14 | | 2.35 A.M. |
| Aug. 14 | 0.29 | 7.15 P.M. to 8.30 P.M. |
| Aug. 24 | 0.01 | 8.10 P.M. to 9.30 P.M. |
| Aug. 27 | 0.04 | 4.20 P.M. to 8.30 P.M. |
| Aug. 28 | 0.01 | 8.20 A.M. to 9.30 A.M. |
| Total | 1.29 | |
| Sept. 1 | 0.61 | 8.50 A.M. to |
| Sept. 2 | | 3.20 A.M. |
| Sept. 2 | 0.09 | 7.10 A.M. to |
| Sept. 3 | | 1.50 A.M. |
| Sept. 4 | 0.02 | 8.30 P.M. to 10.10 P.M. |
| Sept. 5 | 0.02 | 1.30 P.M. to 3.10 P.M. |
| Sept. 15 | 0.23 | 5.20 A.M. to 9.30 A.M. |
| Sept. 16 | 0.01 | 10.00 P.M. to 11.00 P.M. |
| Sept. 17 | 0.10 | 1.45 P.M. to 6.10 P.M. |
| Sept. 22 | 0.44 | 1.45 A.M. to |
| Sept. 23 | | 4.20 A.M. |
| Sept. 30 | 0.71 | 9.30 A.M. to |
| Oct. 1 | | 6.10 A.M. |
| Total | 2.23 | |
| Oct. 1 | 0.95 | 7.45 A.M. to |
| Oct. 2 | | 1.30 A.M. |
| Oct. 2 | 0.08 | 9.10 A.M. to 3.40 P.M. |
| Oct. 10 | 0.05 | 2.50 A.M. to 4.30 A.M. |
| Oct. 15 | 1.18 | 12.55 P.M. to |
| Oct. 16 | | 6.10 A.M. |
| Oct. 16 | 0.26 | 9.10 A.M. to |
| Oct. 17 | | 2.30 A.M. |
| Oct. 18 | 0.06 | 1.10 A.M. to 6.55 A.M. |
| Oct. 18 | 0.09 | 5.30 P.M. to |
| Oct. 19 | | 4.40 A.M. |
| Oct. 20 | 0.01 | 4.30 A.M. to 6.50 A.M. |
| Oct. 20 | 0.02 | 8.10 A.M. to 11.30 A.M. |
| Oct. 23 | 0.04 | 10.30 P.M. to 11.45 P.M. |
| Oct. 25 | 0.04 | 8.00 P.M. to |
| Oct. 26 | | 6.10 A.M. |
| Oct. 26 | 2.35 | 8.10 A.M. to |
| Oct. 27 | | 11.40 P.M. |
| Oct. 28 | 0.05 | 7.30 A.M. to 7.30 P.M. |
| Total | 5.18 | |
| Nov. 2 | 0.54 | 4.10 P.M. to |
| Nov. 3 | | 1.10 P.M. |
| Nov. 5 | 0.27 | 11.45 P.M. to |
| Nov. 6 | | 9.20 A.M. |
| Nov. 8 | 1.01 | 9.50 A.M. to |
| Nov. 9 | | 3.20 P.M. |
| Nov. 11 | 0.03 | 11.30 A.M. to 6.10 P.M. |
| Nov. 13 | 0.02 | 3.00 A.M. to 6.50 A.M. |
| Nov. 14 | 0.02 | 5.10 A.M. to 6.55 A.M. |
| Nov. 15 | 0.27 | 3.20 P.M. to |
| Nov. 17 | | 2.00 A.M. |
| Nov. 22 | 0.67 | 3.30 A.M. to 11.30 A.M. |
| Nov. 23 | 0.15[2] | 1.20 A.M. to |
| Nov. 24 | | 1.10 A.M. |
| Total | 2.98 | |
| Dec. 3 | 0.04 | 7.05 P.M. to 11.45 P.M. |
| Dec. 4 | 0.02 | 9.10 P.M. to |
| Dec. 5 | | 4.25 A.M. |
| Dec. 6 | 0.30 | 6.10 P.M. to |
| Dec. 7 | | 4.00 A.M. |
| Dec. 26 | 1.01 | 9.10 P.M. to |
| Dec. 27 | | 3.30 P.M. |
| Total | 1.37 | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 36.58.

TABLE NO. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1944*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Jan. 4 | .07[2] | 8.50 A.M. to 7.30 P.M. |
| Jan. 6 | 1.16[2] | 7.10 A.M. to |
| Jan. 7 | | 6.20 A.M. |
| Jan. 23 | .33 | 11.30 A.M. to 8.00 P.M. |
| Jan. 25 | .04 | 9.45 P.M. to |
| Jan. 26 | | 1.00 A.M. |
| Jan. 26 | .04 | 7.00 P.M. to 12.00 M'D |
| Jan. 29 | .07[2] | 1.35 A.M. to 6.40 A.M. |
| Jan. 31 | .06[2] | 7.00 P.M. to |
| Feb. 1 | | 6.50 A.M. |
| Total | 1.77 | |
| Feb. 5 | .02 | 11.10 P.M. to |
| Feb. 6 | | 1.40 A.M. |
| Feb. 11 | .77[1] | 4.45 A.M. to |
| Feb. 12 | | 6.10 A.M. |
| Feb. 12 | .14[1] | 9.30 A.M. to 12.00 M'D |
| Feb. 14 | .61 | 11.30 P.M. to |
| Feb. 15 | | 3.15 A.M. |
| Feb. 17 | .52 | 11.00 P.M. to |
| Feb. 18 | | 6.10 A.M. |
| Feb. 22 | .47 | 4.00 P.M. to |
| Feb. 23 | | 4.10 P.M. |
| Feb. 27 | .02 | 5.15 A.M. to 6.30 A.M. |
| Feb. 27 | .11 | 3.30 P.M. to 6.00 5.M. |
| Total | 2.69 | |
| Mar. 7 | .65 | 3.30 A.M. to |
| Mar. 8 | | 3.00 A.M. |
| Mar. 13 | .59 | 12.15 A.M. to 4.00 P.M. |
| Mar. 15 | .60[2] | 2.30 P.M. to |
| Mar. 17 | | 2.45 A.M. |
| Mar. 17 | .10 | 10.45 A.M. to 4.45 P.M. |
| Mar. 20 | 1.18[1] | 12.30 A.M. to |
| Mar. 21 | | 1.00 A.M. |
| Mar. 23 | .45 | 12.30 P.M. to |
| Mar. 24 | | 12.20 A.M. |
| Mar. 27 | .25 | 2.30 P.M. to 7.15 P.M. |
| Mar. 30 | .56 | 1.10 A.M. to 11.30 P.M. |
| Total | 4.38 | |
| Apr. 8 | .25 | 10.05 A.M. to 3.15 P.M. |
| Apr. 10 | .03 | 12.10 P.M. to 5.30 P.M. |
| Apr. 11 | .32 | 6.30 P.M. to |
| Apr. 12 | | 11.30 P.M. |
| Apr. 15 | 1.07 | 2.30 P.M. to |
| Apr. 16 | | 3.15 A.M. |
| Apr. 17 | .18 | 1.00 A.M. to 6.50 A.M. |
| Apr. 21 | .03 | 11.30 P.M. to |
| Apr. 22 | | 1.10 A.M. |
| Apr. 24 | 1.86 | 2.00 A.M. to 11.45 P.M. |
| Apr. 26 | .03 | 2.00 A.M. to 4.15 A.M. |
| Total | 3.77 | |
| May 7 | .07 | 11.30 P.M. to |
| May 8 | | 1.30 A.M. |
| May 13 | .10 | 9.50 P.M. to 11.00 P.M. |
| May 22 | .25 | 10.40 A.M. to 9.30 P.M. |
| May 24 | .01 | 4.15 A.M. to 6.40 A.M. |
| Total | .43 | |
| June 10 | 1.13 | 12.45 P.M. to |
| June 11 | | 6.50 A.M. |
| June 15 | .05 | 6.00 A.M. to 11.40 A.M. |
| June 16 | .63 | 8.05 P.M. to 11.15 P.M. |
| June 19 | .24 | 7.10 A.M. to |
| June 20 | | 5.10 A.M. |
| June 20 | .44 | 8.30 A.M. to |
| June 22 | | 5.30 A.M. |
| June 22 | .03 | 4.20 P.M. to |
| June 24 | | 1.20 A.M. |
| June 24 | 2.10 | 7.30 A.M. to |
| June 25 | | 7.10 P.M. |
| Total | 4.62 | |
| July 4 | .36 | 3.45 P.M. to 6.10 P.M. |
| July 5 | .12 | 11.15 P.M. to |
| July 6 | | 1.10 A.M. |
| July 10 | 1.25 | 5.15 P.M. to 7.45 P.M. |
| July 11 | .06 | 2.30 P.M. to 4.10 P.M. |
| July 16 | .21 | 5.50 P.M. to 7.00 P.M. |
| July 21 | .04 | 1.55 A.M. to 3.55 A.M. |
| July 27 | .06 | 2.15 A.M. to 5.10 A.M. |
| July 27 | .17 | 8.00 A.M. to 10.40 P.M. |
| July 30 | .35 | 2.20 P.M. to 8.10 P.M. |
| Total | 2.62 | |
| Aug. 17 | 1.41 | 5.30 P.M. to |
| Aug. 18 | | 12.45 A.M. |
| Aug. 18 | .21 | 9.45 A.M. to 1.05 P.M. |
| Aug. 22 | .14 | 1.00 A.M. to 6.40 A.M. |
| Aug. 24 | .12 | 1.20 P.M. to 3.30 P.M. |
| Aug. 26 | .02 | 4.00 P.M. to 5.30 P.M. |
| Total | 1.90 | |

[1] Snow.
[2] Snow and Rain.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1944*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Sept. 1 | .10 | 4.30 P.M. to 9.30 P.M. |
| Sept. 2 | .18 | 11.30 P.M. to |
| Sept. 3 | | 4.10 A.M. |
| Sept. 12 | 2.25 | 6.10 P.M. to |
| Sept. 14 | | 4.00 A.M. |
| Sept. 14 | 3.34 | 8.10 A.M. to |
| Sept. 15 | | 2.30 A.M. |
| Sept. 20 | .03 | 2.30 A.M. to 6.10 A.M. |
| Sept. 20 | .04 | 9.10 A.M. to 1.20 P.M. |
| Sept. 22 | .08 | 12.05 A.M. to 3.00 A.M. |
| Sept. 28 | .24 | 3.30 P.M. to |
| Sept. 29 | | 4.10 A.M. |
| Total | 6.20 | |
| Oct. 6 | .15 | 11.15 A.M. to |
| Oct. 7 | | 1.10 A.M. |
| Oct. 10 | .02 | 11.00 P.M. to |
| Oct. 11 | | 1.00 A.M. |
| Oct. 14 | .21 | 7.30 A.M. to 6.10 P.M. |
| Oct. 20 | 2.20 | 12.15 A.M. to |
| Oct. 22 | | 12.30 A.M. |
| Oct. 24 | .75 | 2.40 A.M. to |
| Oct. 25 | | 8.30 A.M. |
| Total | 3.33 | |
| Nov. 6 | .30[2] | 3.10 A.M. to 7.45 P.M. |
| Nov. 10 | 1.04 | 7.10 A.M. to 9.45 P.M. |
| Nov. 16 | .44 | 7.50 A.M. to |
| Nov. 18 | | 1.20 A.M. |
| Nov. 21 | 1.24[2] | 7.20 A.M. to |
| Nov. 22 | | 11.30 P.M. |
| Nov. 24 | .04[2] | 11.30 A.M. to 7.10 P.M. |
| Nov. 27 | .75 | 8.30 A.M. to |
| Nov. 28 | | 6.30 A.M. |
| Nov. 29 | 2.66 | 3.30 P.M. to |
| Nov. 30 | | 11.10 A.M. |
| Total | 6.47 | |
| Dec. 8 | .42 | 3.40 P.M. to 11.45 P.M. |
| Dec. 12 | 1.26 | 1.00 A.M. to 6.40 A.M. |
| Dec. 18 | .32[2] | 10.15 P.M. to |
| Dec. 19 | | 6.00 P.M. |
| Dec. 23 | .04[2] | 1.45 P.M. to 6.30 P.M. |
| Dec. 25 | .42[2] | 4.30 A.M. to |
| Dec. 26 | | 12.30 A.M. |
| Dec. 27[2] | .61 | 7.15 P.M. to |
| Dec. 28 | | 3.30 A.M. |
| Dec. 31 | .21 | 10.15 P.M. to |
| Jan. 1 | | 7.00 A.M. |
| Total | 3.28 | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 41.46 inches.

## Table No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1945*

| Date | Amount | Duration |
|---|---|---|
| Jan. 1 | 1.10 | 7.00 A.M. to 11.00 P.M. |
| Jan. 7 | 0.90[1] | 7.10 A.M. to 11.30 P.M. |
| Jan. 10 | Trace[1] | 6.10 A.M. to 6.50 A.M. |
| Jan. 11 | 0.01[1] | 7.30 A.M. to 9.10 A.M. |
| Jan. 12 | 0.05[1] | 4.10 P.M. to 7.20 P.M. |
| Jan. 14 | 0.48[1] | 12.20 A.M. to 11.30 P.M. |
| Jan. 16 | 0.71[1] | 7.10 A.M. to 5.50 P.M. |
| Jan. 17 | 0.04[1] | 7.50 A.M. to 10.20 A.M. |
| Jan. 22 | 0.29[1] | 4.00 P.M. to 11.50 P.M. |
| Jan. 24 | 0.14[1] | 4.00 P.M. to 7.30 P.M. |
| Jan. 28 | 0.53[1] | 5.30 A.M. to 10.00 A.M. |
| Jan. 29 | | |
| Total | 4.25 | |
| Feb. 5 | 0.30[1] | 12.10 A.M. to 11.20 A.M. |
| Feb. 8 | 1.10[1] | 7.40 A.M. to 1.30 A.M. |
| Feb. 9 | | |
| Feb. 14 | 0.30[1] | 12.10 A.M. to 4.10 P.M. |
| Feb. 15 | 0.56[2] | 9.10 A.M. to 2.30 A.M. |
| Feb. 16 | | |
| Feb. 20 | 0.02[1] | 10.00 P.M. to 1.10 A.M. |
| Feb. 21 | | |
| Feb. 21 | 1.22 | 11.40 P.M. to 11.30 A.M. |
| Feb. 23 | | |
| Feb. 26 | 0.35[2] | 2.15 P.M. to 2.00 A.M. |
| Feb. 27 | | |
| Feb. 27 | 0.05 | 7.20 A.M. to 11.10 A.M. |
| Mar. 1 | 0.03[1] | 2.15 A.M. to 5.00 A.M. |
| Total | 3.93 | |
| Mar. 3 | 0.10 | 2.10 A.M. to 10.10 A.M. |
| Mar. 6 | 0.37 | 5.00 A.M. to 6.10 A.M. |
| Mar. 7 | | |
| Mar. 12 | 0.24[2] | 5.30 P.M. to 1.00 A.M. |
| Mar. 13 | | |
| Mar. 17 | 0.04 | 9.30 P.M. to 10.00 P.M. |
| Mar. 20 | 1.05 | 4.00 P.M. to 10.20 P.M. |
| Mar. 21 | | |
| Mar. 23 | 0.10[2] | 3.30 A.M. to 9.10 A.M. |
| Mar. 27 | 0.20 | 8.30 P.M. to 10.30 P.M. |
| Mar. 31 | 0.14 | 10.30 A.M. to 10.00 P.M. |
| Total | 2.24 | |
| Apr. 2 | 0.18 | 10.20 A.M. to 4.30 A.M. |
| Apr. 3 | | |
| Apr. 5 | 0.53 | 12.30 A.M. to 1.20 P.M. |
| Apr. 17 | 0.06 | 3.00 A.M. to 10.20 A.M. |
| Apr. 18 | 0.33 | 1.30 A.M. to 3.00 A.M. |
| Apr. 21 | 0.12 | 6.30 P.M. to 8.00 P.M. |
| Apr. 25 | 1.28 | 7.10 A.M. to 2.40 A.M. |
| Apr. 27 | | |
| Apr. 29 | 0.01 | 4.20 P.M. to 6.30 P.M. |
| Apr. 30 | 0.15 | 7.30 A.M. to 3.40 P.M. |
| Total | 2.66 | |
| May 3 | 1.26 | 6.15 P.M. to 9.00 P.M. |
| May 4 | | |
| May 6 | 0.16 | 4.30 P.M. to 6.40 A.M. |
| May 7 | | |
| May 8 | 0.09 | 3.45 P.M. to 6.00 P.M. |
| May 10 | 1.56 | 2.10 P.M. to 11.30 A.M. |
| May 11 | | |
| May 13 | 0.37 | 10.30 A.M. to 9.10 P.M. |
| May 16 | 0.02 | 2.00 A.M. to 4.30 A.M. |
| May 17 | 0.92 | 7.20 A.M. to 11.30 P.M. |
| May 18 | | |
| May 19 | 0.04 | 11.00 A.M. to 3.00 P.M. |
| May 21 | 0.02 | 6.10 P.M. to 6.45 P.M. |
| May 27 | 0.04 | 11.00 P.M. to 6.10 A.M. |
| May 28 | | |
| May 29 | 0.29 | 2.30 A.M. to 5.30 A.M. |
| May 30 | 0.37 | 1.45 A.M. to 6.20 A.M. |
| May 31 | 0.01 | 3.15 A.M. to 4.10 A.M. |
| Total | 5.15 | |
| June 2 | 0.33 | 5.10 P.M. to 10.10 P.M. |
| June 3 | | |
| June 5 | 0.44 | 5.35 A.M. to 8.20 P.M. |
| June 6 | 0.31 | 9.00 A.M. to 8.00 P.M. |
| June 8 | 0.23 | 11.55 A.M. to 3.30 P.M. |
| June 10 | 0.26 | 5.00 P.M. to 4.45 A.M. |
| June 11 | | |
| June 11 | 0.22 | 7.30 P.M. to 11.25 P.M. |
| June 15 | 0.74 | 4.30 P.M. to 12.30 A.M. |
| June 16 | | |
| June 17 | 1.12 | 7.30 P.M. to 10.30 P.M. |
| June 19 | 2.19 | 2.10 P.M. to 1.10 P.M. |
| June 20 | | |
| June 21 | 0.17 | 9.50 P.M. to 1.00 A.M. |
| June 22 | | |
| June 26 | 0.43 | 2.00 A.M. to 4.20 A.M. |
| June 26 | 1.50 | 9.45 A.M. to 11.30 P.M. |
| June 27 | 0.02 | 3.00 A.M. to 6.45 A.M. |
| Total | 7.96 | |
| July 1 | 0.03 | 7.10 P.M. to 8.00 P.M. |
| July 2 | 0.14 | 7.15 P.M. to 9.00 P.M. |
| July 6 | 0.26 | 4.00 P.M. to 5.15 P.M. |
| July 10 | 0.37 | 5.00 P.M. to 7.00 P.M. |
| July 14 | 0.45 | 11.30 P.M. to 3.00 A.M. |
| July 15 | | |
| July 15 | 0.60 | 3.00 P.M. to 8.00 P.M. |
| July 16 | 0.12 | 7.10 A.M. to 7.15 P.M. |
| July 18 | 0.03 | 3.00 P.M. to 4.10 P.M. |
| July 19 | 0.03 | 5.30 P.M. to 6.10 P.M. |
| July 20 | 0.07 | 1.10 P.M. to 6.00 P.M. |
| July 29 | 0.29 | 12.30 A.M. to 10.45 A.M. |
| Total | 2.39 | |

[1] Snow.
[2] Rain and Snow.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1945*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Aug. 3 | 0.07 | 3.30 P.M. to 5.00 P.M. |
| Aug. 6 | 1.27 | 1.45 P.M. to |
| Aug. 7 | | 1.00 P.M. |
| Aug. 15 | 0.11 | Noon to 1.10 P.M. |
| Aug. 24 | 1.52 | 7.10 A.M. to |
| Aug. 25 | | 5.30 P.M. |
| Aug. 30 | 0.04 | 9.00 A.M. to 9.30 A.M. |
| Aug. 31 | 0.13 | 8.00 A.M. to 9.00 P.M. |
| Total | 3.14 | |
| Sept. 1 | 0.02 | 10.10 A.M. to 11.40 A.M. |
| Sept. 12 | 0.03 | 2.30 A.M. to 4.10 A.M. |
| Sept. 14 | 0.32 | 7.30 P.M. to |
| Sept. 15 | | 1.40 A.M. |
| Sept. 15 | 0.18 | 1.00 P.M. to 3.00 P.M. |
| Sept. 18 | 0.43 | 4.25 P.M. to |
| Sept. 19 | | 6.10 A.M. |
| Sept. 28 | 0.02 | 5.30 A.M. to 6.45 A.M. |
| Sept. 29 | 0.21 | 3.10 P.M. to 8.30 P.M. |
| Total | 1.21 | |
| Oct. 1 | 0.16 | 1.15 P.M. to 4.00 P.M. |
| Oct. 2 | 0.34 | 11.30 A.M. to 2.20 P.M. |
| Oct. 7 | 1.08 | 2.00 A.M. to 4.45 P.M. |
| Oct. 9 | 0.14 | 9.10 A.M. to 1.10 P.M. |
| Oct. 12 | 0.21 | 10.15 A.M. to 9.45 P.M. |
| Oct. 22 | 0.04 | 11.15 A.M. to 1.10 P.M. |
| Oct. 23 | 0.95 | 9.10 P.M. to |
| Oct. 24 | | 6.45 A.M. |
| Oct. 24 | 0.03 | 11.30 P.M. to |
| Oct. 25 | | 3.00 A.M. |
| Oct. 25 | 0.30 | 7.10 A.M. to |
| Oct. 26 | | 6.00 P.M. |
| Total | 3.25 | |
| Nov. 4 | 1.07[2] | 3.20 A.M. to 6.00 P.M. |
| Nov. 10 | 0.16 | 8.00 P.M. to 11.30 P.M. |
| Nov. 11 | 0.46 | 8.00 A.M. to |
| Nov. 12 | | 4.00 P.M. |
| Nov. 14 | 0.05 | 1.00 A.M. to 2.30 A.M. |
| Nov. 14 | 1.03 | 8.10 A.M. to |
| Nov. 15 | | 6.55 A.M. |
| Nov. 18 | 0.10 | 4.00 A.M. to 11.30 A.M. |
| Nov. 19 | 0.81 | 9.30 P.M. to |
| Nov. 20 | | 6.10 A.M. |
| Nov. 20 | 0.07 | 7.30 A.M. to 11.30 A.M. |
| Nov. 22 | 0.67 | 7.00 A.M. to 1.30 P.M. |
| Nov. 28 | 2.18 | 1.00 A.M. to |
| Nov. 29 | | 6.30 P.M. |
| Nov. 29 | 0.16[2] | 6.30 P.M. to |
| Nov. 30 | | 3.00 P.M. |
| Total | 6.76 | |
| Dec. 6 | 2.80 | 5.50 A.M. to |
| Dec. 7 | | 7.30 P.M. |
| Dec. 10 | 0.06[1] | 2.00 P.M. to 6.00 P.M. |
| Dec. 14 | 0.29[1] | 1.30 A.M. to 6.00 P.M. |
| Dec. 19 | 0.68[1] | 8.30 A.M. to |
| Dec. 20 | | 1.30 A.M. |
| Dec. 25 | 0.71 | 9.00 P.M. to |
| Dec. 26 | | 4.30 A.M. |
| Dec. 28 | 1.03[1] | 4.30 A.M. to |
| Dec. 29 | | 8.30 P.M. |
| Dec. 30 | 0.30 | 8.30 P.M. to |
| Dec. 31 | | 1.00 A.M. |
| Dec. 31 | 0.40 | 7.05 A.M. to 6.00 P.M. |
| Total | 6.27 | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 49.21 inches.

TABLE NO. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1946*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Jan. 6 | 0.09 | 6.10 P.M. to 7.30 P.M. |
| Jan. 9 | 0.46 | 11.45 A.M. to |
| Jan. 10 | | 2.00 A.M. |
| Jan. 12 | 0.12[1] | 3.30 A.M. to 6.10 A.M. |
| Jan. 14 | 0.03[2] | 11.00 P.M. to 11.45 P.M. |
| Jan. 19 | 0.05[1] | 12.45 A.M. to 2.20 A.M. |
| Jan. 20 | 0.41[1] | 3.45 P.M. to 6.00 P.M. |
| Jan. 21 | 0.87[1] | 1.40 A.M. to 2.30 P.M. |
| Jan. 24 | 1.12[2] | 5.00 P.M. to |
| Jan. 25 | | 7.30 A.M. |
| Jan. 30 | 0.49[2] | 12.40 P.M. to 10.15 P.M. |
| Jan. 31 | 0.02[2] | 11.10 A.M. to 3.40 P.M. |
| Total | 3.66 | |
| Feb. 6 | 0.64 | 2.30 P.M. to 11.00 P.M. |
| Feb. 13 | 0.15 | 9.00 P.M. to M'D |
| Feb. 14 | 0.04[2] | 11.00 P.M. to 11.45 P.M. |
| Feb. 15 | 0.02[1] | 11.45 A.M. to 1.00 P.M. |
| Feb. 19 | 1.29[1] | 10.00 P.M. to |
| Feb. 20 | | 2.30 P.M. |
| Feb. 22 | 0.07[1] | 11.15 P.M. to |
| Feb. 23 | | 1.00 A.M. |
| Feb. 24 | 0.02[2] | 8.30 A.M. to 5.00 P.M. |
| Feb. 26 | 0.22[1] | 11.30 A.M. to 5.00 P.M. |
| Feb. 27 | 1.07[2] | 7.00 A.M. to |
| Feb. 28 | | 2.30 A.M. |
| Total | 3.52 | |
| Mar. 2 | 0.37 | 3.45 P.M. to |
| Mar. 3 | | 5.10 A.M. |
| Mar. 7 | 0.21 | 4.20 P.M. to 11.30 P.M. |
| Mar. 8 | 0.22 | 8.00 P.M. to |
| Mar. 9 | | 5.40 A.M. |
| Mar. 11 | 0.10[1] | 1.20 P.M. to 6.30 P.M. |
| Mar. 15 | 0.08 | 7.20 A.M. to 11.20 A.M. |
| Mar. 25 | 0.52 | 4.00 A.M. to |
| Mar. 26 | | 5.00 A.M. |
| Mar. 26 | 0.21 | 8.45 P.M. to |
| Mar. 27 | | 12.45 A.M. |
| Total | 1.71 | |
| Apr. 1 | 0.65[2] | 10.45 P.M. to |
| Apr. 2 | | 9.10 A.M. |
| Apr. 2 | 0.26 | 11.40 P.M. to |
| Apr. 3 | | 4.00 A.M. |
| Apr. 4 | 0.03 | 8.00 A.M. to 11.30 P.M. |
| Apr. 8 | 0.18 | 9.00 P,M. to |
| Apr. 9 | | 2.30 P.M. |
| Apr. 20 | 0.09 | 3.30 A.M. to 9.30 A.M. |
| Apr. 24 | 0.16 | 3.30 A.M. to 8.10 A.M. |
| Apr. 25 | 1.01 | 9.00 P.M. to |
| Apr. 26 | | 6.00 P.M. |
| Apr. 27 | 0.11 | 10.20 A.M. to 7.00 P.M. |
| Apr. 29 | 0.15 | 3.45 P.M. to |
| Apr. 30 | | 6.00 A.M. |
| Total | 2.64 | |

| DATE | AMOUNT | DURATION |
|---|---|---|
| May 5 | 0.43 | 4.40 A.M. to 8.00 P.M. |
| May 7 | 0.48 | 7.00 P.M. to |
| May 8 | | 4.15 P.M. |
| May 9 | 0.03 | 5.00 P.M. to 7.00 P.M. |
| May 11 | 0.25 | 5.30 P.M. to |
| May 13 | | 3.00 A.M. |
| May 15 | 0.45 | 1.45 A.M. to 1.10 P.M. |
| May 17 | 0.27 | 9.00 A.M. to |
| May 19 | | 6.10 A.M. |
| May 21 | 0.54 | 5.30 P.M. to 9.15 P.M. |
| May 26 | 0.31 | 3.45 P.M. to |
| May 27 | | 3.30 A.M. |
| May 27 | 2.68 | 9.20 A.M. to |
| May 28 | | 5.00 P.M. |
| May 29 | 0.07 | 3.30 A.M. to 9.10 A.M. |
| Total | 5.51 | |
| June 1 | 1.23 | 1.50 P.M. to |
| June 2 | | 8.00 P.M. |
| June 4 | 0.03 | 3.20 P.M. to 7.30 P.M. |
| June 5 | 0.37 | 1.15 P.M. to 6.30 P.M. |
| June 8 | 0.34 | 8.30 P.M. to 10.45 P.M. |
| June 11 | 0.59 | 6.45 P.M. to |
| June 12 | | 1.45 P.M. |
| June 13 | 0.05 | 8.30 A.M. to 11.10 A.M. |
| June 18 | 0.34 | 6.10 A.M. to 6.00 P.M. |
| June 21 | 0.19 | 5.00 P.M. to 6.00 P.M. |
| Total | 3.14 | |
| July 2 | 0.42 | 7.15 A.M. to 11.00 A.M. |
| July 21 | 0.06 | 5.30 A.M. to 6.40 A.M. |
| July 22 | 0.09 | 5.30 P.M. to |
| July 23 | | 6.50 A.M. |
| July 23 | 0.81 | 10.45 A.M. to 10.00 P.M. |
| July 30 | 1.60 | 7.45 P.M. to 11.10 P.M. |
| Total | 2.98 | |
| Aug. 1 | 2.59 | 10.00 A.M. to |
| Aug. 2 | | 7.15 P.M. |
| Aug. 5 | 0.02 | 8.15 A.M. to 11.10 A.M. |
| Aug. 7 | 1.99 | 9.05 A.M. to 11.30 P.M. |
| Aug. 10 | 0.39 | 1.30 P.M. to 4.00 P.M. |
| Aug. 13 | 0.87 | 1.40 P.M. to |
| Aug. 14 | | 4.30 A.M. |
| Aug. 14 | 0.12 | 7.30 A.M. to 4.10 P.M. |
| Aug. 16 | 0.30 | 11.15 P.M. to |
| Aug. 17 | | 1.30 A.M. |
| Aug. 18 | 0.52 | M'D to 2.30 A.M. |
| Aug. 19 | 0.57 | 9.40 A.M. to 9.00 P.M. |
| Aug. 23 | 0.09 | 4.40 A.M. to 6.40 A.M. |
| Aug. 23 | 0.25 | 10.30 A.M. to 8.00 P.M. |
| Aug. 27 | 1.63 | 12.30 A.M. to 7.30 P.M. |
| Aug. 29 | 0.31 | 7.10 P.M. to 11.30 P.M. |
| Total | 9.65 | |

[1] Snow.
[2] Rain and Snow.

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir — 1946*

| DATE | AMOUNT | DURATION |
|---|---|---|
| Sept. 8 | 0.05 | 6.40 A.M. to 7.00 A.M. |
| Sept. 8 | 0.72 | 11.45 P.M. to |
| Sept. 9 | | 6.00 A.M. |
| Sept. 22 | 0.05 | 3.30 A.M. to 6.45 A.M. |
| Sept. 24 | 0.38 | 11.20 P.M. to |
| Sept. 25 | | 1.30 A.M. |
| Sept. 30 | 1.33 | 10.30 A.M. to 11.45 P.M. |
| Total | 2.53 | |
| Oct. 13 | 0.17 | 12.30 A.M. to 2.30 A.M. |
| Oct. 18 | 0.01 | 1.45 A.M. to 2.15 A.M. |
| Oct. 18 | 0.19 | 1.35 P.M. to 7.00 P.M. |
| Oct. 26 | 0.02 | 1.15 P.M. to 2.30 P.M. |
| Total | 0.39 | |
| Nov. 2 | 0.05 | 10.00 P.M. to 11.20 P.M. |
| Nov. 3 | 0.01 | 3.00 P.M. to 4.30 P.M. |
| Nov. 7 | 0.11 | 4.00 A.M. to |
| Nov. 8 | | 9.00 A.M. |
| Nov. 10 | 0.44 | 2.30 A.M. to |
| Nov. 11 | | 9.00 P.M. |
| Nov. 22 | 0.57 | 9.30 A.M. to 5.00 P.M. |
| Nov. 26 | 0.04 | 11.40 P.M. to |
| Nov. 27 | | 12.40 A.M. |
| Total | 1.22 | |
| Dec. 2 | 0.04[1] | 3.15 A.M. to 6.30 A.M. |
| Dec. 12 | 0.10 | 12.45 P.M. to |
| Dec. 13 | | 3.30 A.M. |
| Dec. 17 | 0.07 | 9.10 A.M. to 3.50 P.M. |
| Dec. 20 | 2.41[2] | 7.15 P.M. to |
| Dec. 21 | | 8.00 P.M. |
| Dec. 23 | 0.01 | 10.50 P.M. to 11.10 P.M. |
| Dec. 27 | 0.88[2] | 11.10 P.M. to |
| Dec. 28 | | 5.00 P.M. |
| Dec. 29 | 0.39[2] | 10.00 A.M. to 9.30 P.M. |
| Total | 3.90 | |

[1] Snow.
[2] Rain and Snow.

Total for the year, 40.85 inches.

## TABLE NO. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1941*

(Watershed above dam = 107.69 square miles)

| MONTH | GALLONS PER DAY | | | | | | | | | | | RAINFALL (INCHES) | RAINFALL COLLECTED (INCHES) | PERCENTAGE OF RAINFALL COLLECTED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Taken[1] by Town of Clinton* | TAKEN BY CITY OF WORCESTER | | *Received[3] from Quabbin Reservoir* | *Discharged[4] into Wachusett Aqueduct* | *Wasted into River below Dam* | *Seepage[5] through the North Dike* | STORAGE[6] | | *Total Yield of Watershed* | *Yield per Square Mile* | | | |
| | | *From Wachusett Reservoir* | *From[2] Quinapoxet Watershed* | | | | | *Gain* | *Loss* | | | | | |
| JANUARY | – | – | – | – | 124,713,000 | 1,710,000 | 800,000 | – | 42,213,000 | 85,010,000 | 789,000 | 3.65 | 1.408 | 38.5 |
| FEBRUARY | – | – | – | – | 103,961,000 | 1,739,000 | 800,000 | 22,011,000 | – | 128,511,000 | 1,193,000 | 2.55 | 1.923 | 75.5 |
| MARCH | 10,000 | – | – | – | 114,194,000 | 1,687,000 | 800,000 | 5,826,000 | – | 122,516,000 | 1,138,000 | 2.63 | 2.029 | 77.3 |
| APRIL | – | – | – | – | 115,483,000 | 1,713,000 | 800,000 | 28,527,000 | – | 146,523,000 | 1,361,000 | 0.86 | 2.349 | 273.1 |
| MAY | – | – | – | 1,155,000 | 125,887,000 | 1,752,000 | 800,000 | – | 52,235,000 | 75,048,000 | 697,000 | 2.24 | 1.243 | 55.5 |
| JUNE | 50,000 | – | – | – | 142,700,000 | 1,717,000 | 743,000 | – | 101,680,000 | 43,530,000 | 404,000 | 2.97 | 0.698 | 23.5 |
| JULY | 1,326,000 | – | – | – | 162,139,000 | 1,742,000 | 674,000 | – | 132,829,000 | 33,052,000 | 307,000 | 3.71 | 0.547 | 14.8 |
| AUGUST | 1,290,000 | – | – | – | 191,568,000 | 1,684,000 | 571,000 | – | 162,419,000 | 32,694,000 | 304,000 | 3.02 | 0.542 | 18.0 |
| SEPTEMBER | 1,313,000 | – | 2,137,000 | 230,593,000 | 140,600,000 | 1,737,000 | 483,000 | 83,043,000 | – | –1,280,000 | –12,000 | 0.71 | –0.021 | –2.9 |
| OCTOBER | 1,190,000 | 29,000 | 168,000 | 436,900,000 | 186,387,000 | 1,700,000 | 655,000 | 213,206,000 | – | –33,565,000 | –312,000 | 2.44 | –0.556 | –22.8 |
| NOVEMBER | 1,080,000 | 5,860,000 | 1,893,000 | – | 123,750,000 | 1,707,000 | 687,000 | – | 102,070,000 | 32,907,000 | 306,000 | 3.09 | 0.527 | 17.1 |
| DECEMBER | 1,055,000 | 8,061,000 | 4,719,000 | – | 140,984,000 | 1,716,000 | 600,000 | - | 105,851,000 | 51,284,000 | 476,000 | 3.55 | 0.850 | 23.9 |
| Total | | | | | | | | | | | | 31.42 | 11.539 | 36.7 |
| Av. for Yr. | 615,000 | 1,169,000 | 746,000 | 56,158,000 | 139,750,000 | 1,717,000 | 701,000 | – | 29,373,000 | 59,167,000 | 549,000 | | | |

[1] For water supply of Clinton and Lancaster.
[2] Under the provisions of Chapter 340 of the Acts of 1931.
[3] Not included in Wachusett watershed yield. No water received during the year from City of Worcester watershed.
[4] Including 218,000 gallons per day drawn from Wachusett Aqueduct for supply of Westborough State Hospital and 1,037,000 gallons per day delivered to Pressure Aqueduct for cleaning, sterlizing and testing.
[5] Estimated.
[6] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

## Table No. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1942*

(Area of Watershed above Dam=107.69 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received[1] from | | Taken by City of Worcester | | Discharged through Wachusett Aqueduct | | | | Taken[3] by Town of Clinton | Seepage[4] through the North Dike | Wasted into River below Dam | Storage[5] | | Total Yield of Watershed | Yield per Square Mile | | | |
| | Quabbin Aqueduct | City of Worcester (Pine Hill) Watershed | From Wachusett Reservoir | From[2] Quinapoxet Watershed | To Westborough State Hospital | To Pressure Aqueduct | To Sudbury Reservoir | Total | | | | Gain | Loss | | | | | |
| January | – | – | 8.284 | 8.490 | 0.209 | 0.333 | 126.822 | 127.364 | 1.290 | 0.600 | 1.713 | – | 60.135 | 87.606 | 0.814 | 4.46 | 1.451 | 32.5 |
| February | – | – | 0.746 | 4.125 | 0.211 | – | 115.168 | 115.379 | 1.311 | 0.532 | 1.714 | – | 47.807 | 76.000 | 0.706 | 2.94 | 1.137 | 38.6 |
| March | 17.894 | – | – | 15.381 | 0.210 | – | 46.190 | 46.400 | 1.281 | 0.616 | 1.710 | 334.348 | – | 381.842 | 3.546 | 7.91 | 6.325 | 80.0 |
| April | – | – | – | 7.236 | 0.204 | 0.443 | 97.980 | 98.627 | 0.690 | 0.730 | 1.760 | 26.750 | – | 135.793 | 1.261 | 1.55 | 2.177 | 140.9 |
| May | – | – | – | 12.784 | 0.201 | – | 108.793 | 108.993 | – | 0.700 | 1.674 | – | 25.203 | 98.948 | 0.919 | 3.84 | 1.639 | 42.6 |
| June | – | – | – | 14.446 | 0.210 | 1.441 | 147.557 | 149.207 | – | 0.700 | 1.720 | – | 54.733 | 111.340 | 1.034 | 5.55 | 1.785 | 32.2 |
| July | – | – | – | 8.555 | 0.225 | 0.040 | 157.651 | 157.916 | 1.058 | 0.700 | 1.713 | – | 89.471 | 80.471 | 0.747 | 5.80 | 1.333 | 22.0 |
| August | – | – | – | 4.794 | 0.242 | 0.390 | 137.716 | 138.348 | 1.219 | 0.606 | 1.710 | – | 102.577 | 44.100 | 0.410 | 2.20 | 0.730 | 33.2 |
| September | – | – | – | 1.010 | 0.240 | – | 159.173 | 159.413 | 1.227 | 0.547 | 1.723 | – | 129.237 | 34.683 | 0.322 | 2.52 | 0.556 | 22.0 |
| October | – | – | – | 2.674 | 0.239 | – | 153.874 | 154.113 | 1.213 | 0.442 | 1.706 | – | 112.264 | 47.884 | 0.445 | 3.39 | 0.793 | 23.4 |
| November | – | – | – | 12.647 | 0.239 | 0.001 | 125.687 | 125.927 | 1.156 | 0.400 | 1.727 | – | 36.880 | 104.977 | 0.975 | 5.41 | 1.683 | 31.1 |
| December | – | – | – | 10.684 | 0.239 | – | 94.016 | 94.255 | 1.097 | 0.400 | 1.693 | 44.481 | – | 152.610 | 1.417 | 6.00 | 2.528 | 42.2 |
| Total | | | | | | | | | | | | | | | | 51.57 | 22.137 | 42.9 |
| Ave. for Yr. | 1.520 | – | 0.761 | 8.603 | 0.222 | 0.220 | 122.503 | 122.945 | 0.961 | 0.581 | 1.713 | – | 20.540 | 113.504 | 1.054 | | | |

[1] Not included in Wachusett Watershed yield.
[2] Under the provisions of Chapter 340 of the Acts of 1931.
[3] For water supply of Clinton and Lancaster.
[4] Estimated.
[5] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

## Table No. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1943*

(Area of Watershed above Dam=107.69 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received[1] from | | Taken by City of Worcester | | Discharged through Wachusett Aqueduct | | | | Taken[3] by Town of Clinton | Seepage[4] through the North Dike | Wasted into River below Dam | Storage[5] | | Total Yield of Watershed | Yield per Square Mile | | | |
| | Quabbin Aqueduct | City of Worcester (Pine Hill) Watershed | From Wachusett Reservoir | From Quinapoxet Watershed | To Westborough State Hospital | To Pressure Aqueduct | To Sudbury Reservoir | Total | | | | Gain | Loss | | | | | |
| January | – | – | – | 7.910 | 0.232 | – | 110.971 | 111.203 | 1.165 | 0.400 | 1.719 | – | 15.994 | 106.403 | 0.988 | 3.78 | 1.762 | 46.6 |
| February | – | – | – | 8.586 | 0.240 | – | 104.646 | 104.886 | 1.164 | 0.400 | 1.718 | 55.407 | – | 172.161 | 1.599 | 1.85 | 2.575 | 139.1 |
| March | – | – | – | – | 0.239 | – | 96.287 | 96.526 | 1.235 | 0.510 | 1.739 | 188.022 | – | 288.032 | 2.675 | 3.59 | 4.771 | 133.1 |
| April | – | 0.383 | – | – | 0.230 | – | 123.747 | 123.977 | 1.293 | 0.600 | 1.690 | 62.240 | – | 189.417 | 1.759 | 3.93 | 3.037 | 77.2 |
| May | – | 14.336 | – | – | 0.232 | 0.636 | 80.284 | 81.152 | 1.387 | 0.664 | 1.723 | 173.581 | – | 244.171 | 2.267 | 5.70 | 4.044 | 70.9 |
| June | – | 0.277 | – | – | 0.243 | – | 138.197 | 138.440 | 1.500 | 0.700 | 1.733 | – | 59.733 | 82.363 | 0.765 | 1.96 | 1.320 | 67.4 |
| July | – | – | – | 3.432 | 0.258 | 5.671 | 186.503 | 192.432 | 1.490 | 0.649 | 1.687 | – | 152.971 | 46.719 | 0.434 | 4.31 | 0.774 | 17.9 |
| August | 429.965 | – | – | 1.936 | 0.255 | 30.942 | 143.348 | 174.545 | 1.390 | 0.636 | 1.729 | 233.245 | – | −16.484 | −0.153 | 2.23 | −0.273 | −12.3 |
| September | 123.050 | – | – | – | 0.246 | 19.910 | 135.780 | 155.936 | 0.433 | 0.760 | 1.717 | – | 24.263 | 11.533 | 0.107 | 1.44 | 0.185 | 12.9 |
| October | – | – | – | 2.671 | 0.229 | 18.655 | 132.932 | 151.816 | – | 0.700 | 1.700 | – | 99.939 | 56.948 | 0.529 | 5.67 | 0.944 | 16.7 |
| November | – | – | – | 16.347 | 0.229 | 21.357 | 110.607 | 132.193 | – | 0.653 | 1.763 | – | 29.106 | 121.850 | 1.131 | 5.26 | 1.954 | 37.1 |
| December | – | – | – | 9.507 | 0.196 | 22.626 | 114.423 | 137.245 | 0.165 | 0.600 | 1.700 | – | 89.665 | 59.552 | 0.553 | 0.77 | 0.986 | 128.4 |
| Total | | | | | | | | | | | | | | | | 40.49 | 22.079 | 54.5 |
| Ave. for Yr. | 46.631 | 1.272 | – | 4.164 | 0.236 | 10.061 | 123.253 | 133.550 | 0.935 | 0.607 | 1.718 | 20.137 | – | 113.208 | 1.051 | | | |

[1] Not included in Wachusett Watershed yield.
[2] Under the provisions of Chapter 340 of the Acts of 1931.
[3] For water supply of Clinton and Lancaster.
[4] Estimated.
[5] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

## TABLE No. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1944*

(Area of Watershed above Dam=107.69 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received[1] from | | Taken by City of Worcester | | Discharged through Wachusett Aqueduct | | | | Taken[3] by Town of Clinton | Seepage[4] through the North Dike | Wasted into River below Dam | Storage[5] | | Total Yield of Watershed | Yield per Square Mile | | | |
| | Quabbin Aqueduct | City of Worcester (Pine Hill) Watershed | From Wachusett Reservoir | From[2] Quinapoxet Watershed | To Westborough State Hospital | To Pressure Aqueduct | To Sudbury Reservoir | Total | | | | Gain | Loss | | | | | |
| January | – | – | – | 0.826 | 0.189 | 26.952 | 120.190 | 147.332 | 0.426 | 0.561 | 1.687 | – | 109.219 | 41.613 | 0.386 | 1.62 | 0.689 | 42.4 |
| February | – | – | – | 7.128 | 0.177 | 24.923 | 146.610 | 171.710 | 0.469 | 0.493 | 1.714 | – | 104.824 | 76.690 | 0.712 | 2.64 | 1.188 | 45.0 |
| March | – | – | – | 17.123 | 0.184 | 22.038 | 97.271 | 119.493 | 0.635 | 0.416 | 1.716 | 43.594 | - | 182.977 | 1.699 | 4.64 | 3.631 | 65.3 |
| April | – | 0.973 | – | – | 0.187 | 20.220 | 83.593 | 104.000 | 1.250 | 0.516 | 1.710 | 120.230 | – | 226.733 | 2.105 | 4.24 | 3.635 | 85.6 |
| May | – | – | – | 7.371 | 0.190 | 21.213 | 111.471 | 132.874 | 1.348 | 0.571 | 1.706 | – | 48.429 | 95.442 | 0.886 | 1.26 | 1.581 | 126.0 |
| June | 261.663 | – | – | 8.273 | 0.198 | 26.192 | 148.973 | 175.363 | 1.430 | 0.550 | 1.743 | 201.907 | – | 127.603 | 1.185 | 7.46 | 2.045 | 27.4 |
| July | 284.906 | – | – | 6.197 | 0.209 | 26.765 | 144.948 | 171.922 | 1.477 | 0.668 | 1.690 | 109.071 | – | 6.119 | 0.057 | 1.13 | 0.101 | 9.0 |
| August | 128.239 | – | – | – | 0.220 | 27.760 | 170.534 | 198.513 | 1.629 | 0.700 | 1.813 | – | 67.355 | 7.061 | 0.066 | 0.95 | 0.117 | 12.3 |
| September | 203.117 | – | – | 5.737 | 0.211 | 34.843 | 139.293 | 174.347 | 1.473 | 0.700 | 1.697 | 52.750 | - | 33.587 | 0.312 | 6.79 | 0.538 | 7.9 |
| October | – | – | – | 4.019 | 0.197 | 25.929 | 137.981 | 164.107 | – | 0.674 | 1.716 | – | 135.029 | 35.487 | 0.330 | 2.17 | 0.588 | 27.1 |
| November | – | – | – | 7.700 | 0.194 | 23.620 | 127.703 | 151.517 | – | 0.600 | 1.723 | – | 84.487 | 77.053 | 0.716 | 4.64 | 1.235 | 26.6 |
| December | – | – | – | 14.648 | 0.197 | 22.138 | 74.465 | 96.800 | – | 0.600 | 1.700 | – | 3.213 | 110.535 | 1.026 | 4.07 | 1.831 | 45.0 |
| Total | | | | | | | | | | | | | | | | 41.61 | 16.579 | 39.8 |
| Ave. for Yr. | 73.090 | 0.080 | – | 6.595 | 0.196 | 25.207 | 125.140 | 150.543 | 0.845 | 0.588 | 1.718 | – | 2.339 | 84.780 | 0.787 | | | |

[1] Not included in Wachusett Watershed yield.
[2] Under the provisions of Chapter 340 of the Acts of 1931.
[3] For water supply of Clinton and Lancaster.
[4] Estimated.
[5] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

## TABLE No. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1945*

(Area of Watershed above Dam=107.69 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received[1] from | | Taken by City of Worcester | | Discharged through Wachusett Aqueduct | | | | | | | Storage[5] | | | | | | | |
| | *Quabbin Aqueduct* | *City of Worcester (Pine Hill) Watershed* | *From Wachusett Reservoir* | *From[2] Quinapoxet Watershed* | *To Westborough State Hospital* | *To Pressure Aqueduct* | *To Sudbury Reservoir* | *Total* | *Taken[3] by Town of Clinton* | *Seepage[4] through the North Dike* | *Wasted into River below Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall Collected* |
| January | – | – | – | – | 0.195 | 31.189 | 125.935 | 157.319 | 0.248 | 0.600 | 1.723 | – | 40.103 | 119.787 | 1.112 | 3.84 | 1.984 | 51.7 |
| February | – | – | – | 2.314 | 0.201 | 34.403 | 109.329 | 143.933 | 0.035 | 0.507 | 1.711 | – | 25.132 | 123.368 | 1.146 | 4.50 | 1.846 | 41.0 |
| March | – | – | – | – | 0.193 | 31.075 | 60.526 | 91.794 | – | 0.622 | 1.713 | 252.039 | – | 346.168 | 3.215 | 2.47 | 5.734 | 231.9 |
| April | – | – | – | 5.647 | 0.199 | 30.644 | 99.994 | 130.837 | – | 0.700 | 1.713 | 35.900 | – | 174.797 | 1.623 | 4.21 | 2.802 | 66.6 |
| May | – | 9.606 | – | 2.135 | 0.197 | 57.352 | 57.748 | 115.297 | 0.245 | 0.745 | 1.732 | 124.258 | – | 234.806 | 2.180 | 5.39 | 3.889 | 72.2 |
| June | 75.833 | 9.933 | – | – | 0.210 | 54.970 | 75.033 | 130.213 | 1.443 | 0.800 | 1.644 | 102.283 | – | 150.617 | 1.399 | 6.16 | 2.414 | 39.2 |
| July | 398.054 | 0.326 | – | – | 0.212 | 45.256 | 107.535 | 153.003 | 1.545 | 0.887 | 1.771 | 293.819 | – | 52.645 | 0.489 | 5.12 | 0.872 | 17.0 |
| August | – | – | – | – | 0.215 | 32.024 | 149.300 | 181.539 | 1.497 | 0.900 | 1.716 | – | 122.313 | 63.339 | 0.588 | 3.72 | 1.049 | 28.2 |
| September | 246.436 | – | – | – | 0.218 | 29.032 | 130.830 | 160.080 | 1.460 | 0.900 | 1.703 | 96.060 | – | 13.767 | 0.128 | 2.33 | 0.221 | 9.5 |
| October | – | – | – | – | 0.211 | 27.115 | 137.319 | 164.645 | 0.500 | 0.900 | 1.716 | – | 130.090 | 37.671 | 0.350 | 2.15 | 0.624 | 29.1 |
| November | – | – | – | – | 0.206 | 33.887 | 76.610 | 110.703 | – | 0.900 | 1.753 | – | 26.243 | 87.113 | 0.809 | 5.50 | 1.396 | 25.4 |
| December | – | – | – | – | 0.206 | 51.290 | 21.810 | 73.306 | – | 0.900 | 1.665 | 86.742 | – | 162.613 | 1.510 | 6.22 | 2.694 | 43.3 |
| Total | | | | | | | | | | | | | | | | 51.61 | 25.525 | 49.5 |
| Ave. for Yr. | 60.295 | 1.660 | – | 0.823 | 0.205 | 38.229 | 95.892 | 134.326 | 0.584 | 0.782 | 1.713 | 83.534 | 28.928 | 130.879 | 1.215 | | | |

[1] Not included in Wachusett Watershed yield.
[2] Under the provsions of Chapter 340 of the Acts of 1931.
[3] For water supply of Clinton and Lancaster.
[4] Estimated.
[5] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

## Table No. 3. — *Wachusett System — Statistics of Flow of Water, Storage and Rainfall in 1946*

(Area of Watershed above Dam = 107.69 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received[1] from | | Taken by City of Worcester | | Discharged through Wachusett Aqueduct | | | | | | | Storage[5] | | | | | | |
| | *Quabbin Aqueduct* | *City of Worcester (Pine Hill) Watershed* | *From Wachusett Reservoir* | *From[2] Quinapoxet Watershed* | *To Westborough State Hospital* | *To Pressure Aqueduct* | *To Sudbury Reservoir* | *Total* | *Taken[3] by Town of Clinton* | *Seepage[4] through the North Dike* | *Wasted into River below Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall Collected* |
| January | – | – | – | – | 0.203 | 61.513 | 60.923 | 122.639 | – | 0.900 | 1.738 | 84.652 | – | 209.929 | 1.949 | 3.86 | 3.477 | 90.1 |
| February | – | 0.261 | – | – | 0.197 | 69.989 | 79.500 | 149.686 | – | 0.900 | 1.707 | – | 4.639 | 147.393 | 1.369 | 4.26 | 2.205 | 51.8 |
| March | 5.474 | 16.264 | – | – | 0.197 | 65.274 | 57.026 | 122.497 | 1.087 | 0.974 | 2.803 | 183.445 | – | 289.068 | 2.684 | 1.76 | 4.788 | 272.1 |
| April | – | 0.347 | – | – | 0.203 | 65.000 | 81.690 | 146.893 | 0.357 | 1.000 | 8.684 | – | 31.310 | 125.277 | 1.163 | 2.77 | 2.008 | 72.5 |
| May | – | 4.268 | – | – | 0.213 | 65.600 | 83.313 | 149.126 | 0.019 | 1.000 | 2.161 | 36.384 | – | 184.422 | 1.713 | 6.33 | 3.055 | 48.3 |
| June | – | – | – | – | 0.217 | 64.190 | 83.730 | 148.137 | 1.460 | 1.000 | 43.893 | – | 56.733 | 137.757 | 1.279 | 3.23 | 2.208 | 68.5 |
| July | – | – | – | – | 0.242 | 69.077 | 108.039 | 177.358 | 1.568 | 0.968 | 1.874 | – | 142.581 | 39.187 | 0.364 | 4.36 | 0.649 | 14.9 |
| August | 89.903 | – | – | – | 0.216 | 64.429 | 129.152 | 193.797 | 1.239 | 0.900 | 1.871 | – | 30.394 | 77.510 | 0.720 | 6.54 | 1.284 | 19.6 |
| September | 265.267 | – | – | – | 0.224 | 65.290 | 118.803 | 184.317 | – | 0.980 | 1.963 | 126.997 | – | 48.990 | 0.455 | 5.52 | 0.785 | 14.2 |
| October | – | – | – | – | 0.216 | 66.529 | 103.510 | 170.255 | – | 0.945 | 11.264 | – | 111.274 | 71.190 | 0.661 | 1.03 | 1.179 | 114.2 |
| November | – | – | – | – | 0.212 | 68.588 | 69.633 | 138.463 | 0.910 | 0.900 | 9.323 | – | 110.103 | 39.493 | 0.367 | 1.47 | 0.633 | 43.2 |
| December | – | – | – | – | 0.199 | 72.243 | 142.135 | 214.577 | 0.977 | 0.855 | 30.468 | – | 169.784 | 77.093 | 0.716 | 4.12 | 1.278 | 31.0 |
| Total | | | | | | | | | | | | | | | | 45.25 | 23.549 | 52.0 |
| Ave. for Yr. | 29.903 | 1.792 | – | – | 0.211 | 66.456 | 93.287 | 159.954 | 0.639 | 0.944 | 9.812 | 36.298 | 55.204 | 120.748 | 1.121 | | | |

[1] Not included in Wachusett Watershed yield.
[2] Under the provisions of Chapter 340 of the Acts of 1931.
[3] For water supply of Clinton and Lancaster.
[4] Estimated.
[5] Aggregate storage in Wachusett Reservoir and in ponds and in mill reservoirs.

TABLE No. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1941*

(Watershed=75.2 square miles)

| Month | Gallons Per Day | | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Water* received from Wachusett Reservoir* | *Water discharged through Sudbury Aqueduct* | *Water discharged through Weston Aqueduct* | *Water used by Framingham Water Works* | *Water diverted from Watershed by Sewers, etc.* | *Water wasted from Farm Pond* | *Water wasted into River below Lowest Dam* | Storage | | *Total Yield of Watershed* | *Yield per Square Mile* | | | |
| | | | | | | | | *Gain* | *Loss* | | | | | |
| January | 124,503,000 | 25,113,000 | 113,129,000 | 3,000 | 1,123,000 | 729,000 | 37,051,000 | 2,713,000 | – | 55,358,000 | 736,000 | 3.81 | 1.313 | 34.4 |
| February | 97,039,000 | 24,893,000 | 113,446,000 | 4,000 | 1,450,000 | 757,000 | 81,896,000 | – | 23,211,000 | 102,196,000 | 1,359,000 | 2.14 | 2.190 | 102.6 |
| March | 109,477,000 | 21,923,000 | 113,271,000 | – | 1,290,000 | 568,000 | 63,448,000 | 10,716,000 | – | 101,739,000 | 1,353,000 | 2.75 | 2.413 | 87.7 |
| April | 115,250,000 | 20,737,000 | 111,360,000 | 10,000 | 1,126,000 | 90,080 | 60,247,000 | – | 1,247,000 | 77,073,000 | 1,025,000 | 1.30 | 1.769 | 136.5 |
| May | 125,668,000 | 22,574,000 | 111,442,000 | 26,000 | 916,000 | – | 17,213,000 | – | 29,000 | 26,474,000 | 352,000 | 2.24 | 0.628 | 28.1 |
| June | 142,477,000 | 25,360,000 | 112,130,000 | 3,000 | 927,000 | – | 8,117,000 | 8,290,000 | – | 12,350,000 | 164,000 | 4.56 | 0.284 | 6.2 |
| July | 160,942,000 | 34,277,000 | 115,210,000 | 29,000 | 587,000 | 400,000 | 3,781,000 | 2,906,000 | – | –3,752,000 | –50,000 | 3.68 | –0.089 | –2.4 |
| August | 191,329,000 | 32,332,000 | 115,371,000 | 23,000 | 671,000 | 187,000 | 2,878,000 | 22,177,000 | – | –17,690,000 | –235,000 | 2.99 | –0.420 | –14.0 |
| September | 139,693,000 | 33,653,000 | 117,183,000 | 37,000 | 647,000 | 3,000 | 1,503,000 | – | 31,593,000 | –18,260,000 | –243,000 | 0.53 | –0.419 | –79.1 |
| October | 186,171,000 | 28,268,000 | 115,710,000 | 22,000 | 671,000 | – | 1,500,000 | 24,245,000 | – | –15,755,000 | –210,000 | 1.73 | –0.373 | –21.6 |
| November | 123,533,000 | 24,113,000 | 110,253,000 | 3,000 | 740,000 | – | 4,103,000 | – | 14,573,000 | 1,107,000 | 15,000 | 2.70 | 0.025 | 0.9 |
| December | 140,774,000 | 30,764,000 | 112,516,000 | 10,000 | 813,000 | 68,000 | 14,200,000 | – | 3,649,000 | 13,948,000 | 185,000 | 3.46 | 0.331 | 9.6 |
| Total | | | | | | | | | | | | 31.89 | 7.652 | 24.0 |
| Av. for Yr. | 138,495,000 | 27,029,000 | 113,426,000 | 14,000 | 910,000 | 231,000 | 24,259,000 | 22,000 | – | 27,396,000 | 364,000 | | | |

* Not including 218,000 gallons per day drawn from Wachusett Aqueduct for supply of Westborough State Hospital and 1,037,000 gallons per day delivered to Pressure Aqueduct for cleaning, sterilizing and testing.

## TABLE NO. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1942*

(Area of Watershed=75.2 square miles)

| MONTH | MILLION GALLONS PER DAY | | | | | | | | | | | | | | | | | | RAINFALL (INCHES) | RAINFALL COLLECTED (INCHES) | PERCENTAGE OF RAINFALL COLLECTED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RECEIVED FROM | | DISCHARGED THROUGH | | | | | | | | STORAGE | | | | | | | | | | |
| | | | SUDBURY AQUEDUCT | | | | | | | | | | | | | | | | | | |
| | *Wachusett Aqueduct* | *Pressure Aqueduct* | *To Chestnut Hill Reservoir* | *To Lake Cochituate* | *Total* | *Weston Aqueduct* | *Used by Framingham Water Works* | *Diverted from Watershed by Sewers, etc.* | *Wasted from Farm Pond* | *Wasted into River below Lowest Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | | | | | | | |
| JANUARY | 126.822 | – | 33.552 | – | 33.552 | 112.613 | 0.003 | 0.790 | 0.390 | 16.945 | – | 4.187 | 33.284 | 0.443 | 4.42 | 0.790 | 17.9 |
| FEBRUARY | 115.168 | – | 29.179 | – | 29.179 | 110.821 | 0.018 | 1.071 | 0.661 | 27.400 | 1.757 | – | 55.739 | 0.741 | 2.96 | 1.194 | 40.3 |
| MARCH | 46.190 | – | 23.471 | – | 23.471 | 105.742 | 0.022 | 1.981 | 1.506 | 125.855 | 16.642 | – | 229.029 | 3.046 | 7.39 | 5.433 | 73.6 |
| APRIL | 97.980 | – | 25.453 | – | 25.453 | 104.650 | - | 1.557 | 0.370 | 50.027 | 1.233 | – | 85.310 | 1.134 | 1.73 | 1.958 | 113.1 |
| MAY | 108.793 | – | 27.939 | – | 27.939 | 109.290 | 0.003 | 1.016 | 0.216 | 20.345 | – | 15.487 | 34.529 | 0.459 | 2.51 | 0.819 | 32.6 |
| JUNE | 147.557 | – | 33.817 | – | 33.817 | 110.333 | – | 0.967 | 0.033 | 10.167 | 0.510 | – | 8.270 | 0.110 | 3.08 | 0.190 | 6.2 |
| JULY | 157.651 | – | 34.716 | – | 34.716 | 111.936 | – | 0.929 | 0.190 | 15.119 | 20.726 | – | 25.965 | 0.345 | 7.90 | 0.616 | 7.8 |
| AUGUST | 137.716 | – | 34.164 | – | 34.164 | 113.613 | – | 0.693 | 0.968 | 16.697 | – | 20.987 | 7.432 | 0.099 | 2.34 | 0.176 | 7.6 |
| SEPTEMBER | 159.173 | – | 33.297 | – | 33.297 | 113.966 | – | 0.487 | 0.500 | 5.660 | – | 1.630 | -6.893 | -0.092 | 1.89 | -0.158 | -8.4 |
| OCTOBER | 153.874 | – | 30.019 | – | 30.019 | 111.774 | – | 0.664 | 0.387 | 9.965 | 9.055 | – | 7.990 | 0.016 | 3.20 | 0.190 | 5.9 |
| NOVEMBER | 125.687 | – | 26.507 | 0.056 | 26.563 | 111.633 | – | 0.993 | 0.647 | 27.787 | 8.207 | – | 50.143 | 0.667 | 5.10 | 1.151 | 22.6 |
| DECEMBER | 94.016 | – | 36.068 | – | 36.068 | 109.903 | – | 1.526 | 1.500 | 76.716 | 13.932 | – | 145.629 | 1.937 | 7.02 | 3.454 | 49.2 |
| Total | | | | | | | | | | | | | | | 49.54 | 15.813 | 31.9 |
| Average for Year | 122.503 | – | 30.704 | 0.005 | 30.709 | [1]110.525 | 0.004 | 1.057 | 0.616 | 33.718 | 2.491 | – | 56.617 | 0.753 | | | |

[1] Not including 0.036 million gallons per day delivered directly to Weston Aqueduct from Pressure Aqueduct.

## TABLE NO. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1943*

(Area of Watershed=75.2 square miles)

| MONTH | MILLION GALLONS PER DAY | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RECEIVED FROM | | DISCHARGED THROUGH SUDBURY AQUEDUCT | | | | | | | | STORAGE | | | | | | | | |
| | *Wachusett Aqueduct* | *Pressure Aqueduct* | *To Chestnut Hill Reservoir* | *To Lake Cochituate* | *Total* | *Weston Aqueduct* | *Used by Framingham Water Works* | *Diverted from Watershed by Sewers, etc.* | *Wasted from Farm Pond* | *Wasted into River below Lowest Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall Collected* | |
| JANUARY | 110.971 | – | 36.410 | – | 36.410 | 113.032 | – | 1.297 | 1.451 | 57.539 | – | 24.039 | 74.719 | 0.994 | 3.37 | 1.772 | 52.6 | | |
| FEBRUARY | 104.646 | – | 35.639 | – | 35.639 | 115.393 | – | 1.432 | 0.696 | 71.250 | – | 10.089 | 109.675 | 1.458 | 1.49 | 2.350 | 158.2 | | |
| MARCH | 96.287 | – | 29.435 | – | 29.435 | 115.807 | – | 1.658 | 0.977 | 110.287 | 14.271 | – | 176.148 | 2.342 | 4.05 | 4.178 | 103.1 | | |
| APRIL | 123.747 | – | 25.117 | – | 25.117 | 114.400 | – | 1.413 | 0.627 | 44.100 | 25.087 | – | 86.997 | 1.157 | 3.54 | 1.997 | 56.4 | | |
| MAY | 80.284 | – | 24.152 | – | 24.152 | 110.419 | – | 1.639 | 0.661 | 72.642 | – | 2.668 | 126.561 | 1.683 | 4.80 | 3.002 | 62.5 | | |
| JUNE | 138.197 | – | 36.167 | – | 36.167 | 114.667 | 0.010 | 0.873 | 0.333 | 25.803 | – | 21.193 | 18.463 | 0.246 | 2.17 | 0.424 | 19.5 | | |
| JULY | 186.503 | 0.258 | 39.442 | – | 39.442 | 117.710 | 0.152 | 0.597 | 0.161 | 4.106 | 21.245 | – | –3.348 | –0.045 | 4.71 | –0.079 | –1.7 | | |
| AUGUST | 143.348 | – | 39.877 | – | 39.877 | 93.716 | 0.003 | 0.784 | – | 4.281 | – | 7.748 | –12.435 | –0.165 | 1.80 | –0.295 | –16.4 | | |
| SEPTEMBER | 135.780 | – | 35.800 | – | 35.800 | 96.467 | 0.003 | 0.420 | – | 1.500 | – | 14.670 | –16.260 | –0.216 | 0.85 | –0.374 | –44.0 | | |
| OCTOBER | 132.932 | – | 31.148 | – | 31.148 | 96.194 | – | 0.658 | 0.168 | 6.729 | 9.845 | – | 11.810 | 0.157 | 5.74 | 0.280 | 4.9 | | |
| NOVEMBER | 110.607 | – | 28.980 | – | 28.980 | 94.733 | 0.007 | 0.920 | 1.097 | 23.750 | 2.480 | – | 41.360 | 0.550 | 3.95 | 0.950 | 24.1 | | |
| DECEMBER | 114.423 | – | 39.574 | – | 39.574 | 95.936 | – | 0.642 | 0.516 | 11.284 | – | 24.610 | 8.919 | 0.119 | 1.20 | 0.212 | 17.6 | | |
| Total | | | | | | | | | | | | | | | 37.67 | 14.417 | 38.3 | | |
| Average for Year | 123.253 | 0.022 | 33.482 | – | 33.482 | 106.483 | 0.015 | 1.026 | 0.557 | 35.952 | – | 2.620 | 51.620 | 0.686 | | | | | |

## TABLE NO. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1944*

(Area of Watershed=75.2 square miles)

| MONTH | MILLION GALLONS PER DAY | | | | | | | | | | | | | | RAINFALL (INCHES) | RAINFALL COLLECTED (INCHES) | PERCENTAGE OF RAINFALL COLLECTED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RECEIVED FROM | | DISCHARGED THROUGH | | | | | | | | STORAGE | | | | | | |
| | | | SUDBURY AQUEDUCT | | | | | | | | | | | | | | |
| | *Wachusett Aqueduct* | *Pressure Aqueduct* | *To Chestnut Hill Reservoir* | *To Lake Cochituate* | *Total* | *Weston Aqueduct* | *Used by Framingham Water Works* | *Diverted from Watershed by Sewers, etc.* | *Wasted from Farm Pond* | *Wasted into River below Lowest Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | | | |
| JANUARY | 120.190 | – | 39.055 | – | 39.055 | 94.710 | – | 0.842 | 0.403 | 5.509 | – | 7.510 | 12.819 | 0.170 | 1.77 | 0.304 | 17.2 |
| FEBRUARY | 146.607 | – | 38.562 | – | 38.562 | 93.310 | – | 0.797 | 0.369 | 15.617 | 25.403 | – | 27.452 | 0.365 | 2.60 | 0.609 | 23.4 |
| MARCH | 97.271 | – | 29.177 | – | 29.177 | 92.097 | – | 1.139 | 1.500 | 53.955 | 9.035 | – | 90.232 | 1.200 | 4.67 | 2.140 | 45.8 |
| APRIL | 83.593 | – | 25.773 | – | 25.773 | 90.533 | 0.003 | 1.513 | 1.964 | 87.300 | 4.897 | – | 128.390 | 1.707 | 4.69 | 2.947 | 62.9 |
| MAY | 111.471 | – | 34.732 | – | 34.732 | 90.742 | – | 0.736 | 0.819 | 27.852 | – | 19.600 | 23.810 | 0.317 | 0.91 | 0.565 | 61.9 |
| JUNE | 148.973 | – | 37.893 | - | 37.894 | 91.234 | 0.073 | 0.503 | 0.743 | 11.643 | 24.950 | – | 18.067 | 0.240 | 5.13 | 0.415 | 8.1 |
| JULY | 144.952 | – | 41.035 | – | 41.035 | 92.872 | 0.045 | 0.361 | 0.229 | 2.771 | – | 9.016 | -16.655 | -0.221 | 1.80 | -0.395 | -22.0 |
| AUGUST | 170.535 | – | 47.084 | 4.181 | 51.265 | 93.064 | 0.058 | 0.042 | – | 1.500 | – | 0.619 | -25.226 | -0.335 | 1.65 | -0.598 | -36.2 |
| SEPTEMBER | 139.293 | – | 39.023 | 6.077 | 45.100 | 93.000 | 0.003 | 0.467 | 0.754 | 8.083 | – | 0.907 | 7.207 | 0.096 | 6.33 | 0.165 | 2.6 |
| OCTOBER | 137.980 | – | 35.929 | – | 35.929 | 93.936 | – | 0.548 | 0.232 | 2.761 | – | 2.171 | -6.745 | -0.090 | 2.09 | -0.160 | -7.7 |
| NOVEMBER | 127.704 | – | 34.096 | – | 34.096 | 94.267 | – | 0.680 | 0.497 | 18.697 | 15.370 | – | 35.903 | 0.477 | 6.54 | 0.824 | 12.6 |
| DECEMBER | 74.464 | - | 39.432 | – | 39.432 | 92.000 | – | 1.419 | 1.523 | 47.058 | – | 31.168 | 75.800 | 1.008 | 3.53 | 1.798 | 51.0 |
| Total | | | | | | | | | | | | | | | 41.71 | 8.614 | 20.7 |
| Average for Year | 125.213 | – | 36.835 | 0.851 | 37.687 | 92.648 | 0.015 | 0.753 | 0.752 | 23.520 | 0.525 | – | 30.760 | 0.409 | | | |

TABLE No. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1945*

(Area of Watershed=75.2 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from | | Discharged through | | | | | | | | Storage | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
| | | | Sudbury Aqueduct | | | | | | | | | | | | | | |
| | *Wachusett Aqueduct* | *Pressure Aqueduct* | *To Chestnut Hill Reservoir* | *To Lake Cochituate* | *Total* | *Weston Aqueduct* | *Used by Framingham Water Works* | *Diverted from Watershed by Sewers, etc.* | *Wasted from Farm Pond* | *Wasted into River below Lowest Dam* | *Gain* | *Loss* | *Total Yield of Watershed* | *Yield per Square Mile* | | | |
| January | 125.935 | – | 45.251 | – | 45.251 | 92.903 | 0.061 | 1.132 | 0.952 | 53.465 | 5.090 | – | 72.919 | 0.970 | 3.10 | 1.730 | 55.9 |
| February | 109.329 | – | 41.411 | – | 41.411 | 92.607 | – | 1.111 | 0.539 | 80.029 | – | 29.968 | 76.400 | 1.016 | 5.12 | 1.637 | 31.9 |
| March | 60.526 | – | 34.135 | – | 34.135 | 91.129 | 0.007 | 2.323 | 1.268 | 126.677 | 33.887 | – | 228.900 | 3.044 | 2.20 | 5.430 | 246.2 |
| April | 99.993 | – | 35.117 | – | 35.117 | 80.590 | 0.010 | 1.640 | 0.747 | 51.133 | 12.266 | – | 81.510 | 1.084 | 3.04 | 1.871 | 61.6 |
| May | 57.748 | – | 34.342 | – | 34.342 | 55.826 | 0.064 | 1.819 | 1.451 | 85.810 | 10.610 | – | 132.174 | 1.758 | 5.07 | 3.135 | 61.9 |
| June | 75.033 | – | 39.733 | – | 39.733 | 56.273 | 0.247 | 1.460 | 1.003 | 59.513 | 11.597 | – | 94.793 | 1.261 | 6.22 | 2.176 | 35.0 |
| July | 107.535 | – | 45.206 | – | 45.206 | 73.248 | 0.368 | 1.142 | 0.519 | 29.000 | – | 7.403 | 34.545 | 0.459 | 2.78 | 0.819 | 29.5 |
| August | 149.300 | – | 44.626 | – | 44.626 | 90.290 | 0.477 | 0.748 | 0.310 | 16.581 | 10.636 | – | 14.368 | 0.191 | 4.23 | 0.341 | 8.1 |
| September | 130.830 | – | 46.650 | – | 46.650 | 89.666 | 0.693 | 0.900 | 0.147 | 9.497 | – | 12.170 | 4.553 | 0.061 | 1.59 | 0.105 | 6.6 |
| October | 137.319 | – | 40.429 | – | 40.429 | 90.645 | 0.255 | 0.881 | 0.090 | 9.713 | 3.035 | – | 7.729 | 0.103 | 2.25 | 0.183 | 8.2 |
| November | 76.610 | – | 35.953 | – | 35.953 | 83.260 | 0.360 | 1.270 | 0.840 | 43.510 | – | 15.040 | 73.543 | 0.978 | 7.06 | 1.688 | 23.9 |
| December | 21.810 | – | 44.823 | – | 44.823 | 56.161 | 0.255 | 1.990 | 1.820 | 111.626 | – | 26.639 | 168.226 | 2.237 | 6.50 | 3.990 | 61.4 |
| Total | | | | | | | | | | | | | | | 49.16 | 23.106 | 47.0 |
| Average for Year | 95.892 | – | 40.647 | – | 40.647 | 79.296 | 0.234 | 1.371 | 0.811 | 56.354 | 7.334 | 7.427 | 82.728 | 1.100 | | | |

## TABLE No. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1946*

(Area of Watershed=75.2 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from | | Discharged through | | | | | | | | Storage | | | | | | |
| | | | Sudbury Aqueduct | | | | | | | | | | | | | | |
| | Wachusett Aqueduct | Pressure Aqueduct | To Chestnut Hill Reservoir | To Lake Cochituate | Total | Weston Aqueduct | Used by Framingham Water Works | Diverted from Watershed by Sewers, etc. | Wasted from Farm Pond | Wasted into River below Lowest Dam | Gain | Loss | Total Yield of Watershed | Yield per Square Mile | | | |
| January | 60.923 | – | 48.803 | – | 48.803 | 57.371 | 0.306 | 1.871 | 1.866 | 106.177 | 6.435 | – | 161.906 | 2.153 | 3.83 | 3.841 | 100.2 |
| February | 79.500 | – | 46.100 | – | 46.100 | 56.746 | 0.396 | 1.529 | 1.368 | 73.529 | 13.650 | – | 113.818 | 1.514 | 3.41 | 2.438 | 71.4 |
| March | 57.026 | – | 38.381 | – | 38.381 | 54.494 | 0.377 | 1.713 | 1.561 | 151.948 | – | 2.813 | 188.635 | 2.508 | 1.71 | 4.475 | 262.0 |
| April | 81.690 | - | 33.703 | – | 33.703 | 55.150 | 0.403 | 1.257 | 0.344 | 56.620 | 9.763 | – | 75.550 | 1.005 | 2.65 | 1.734 | 65.5 |
| May | 83.313 | – | 35.677 | – | 35.677 | 53.997 | 0.364 | 1.397 | 0.845 | 58.294 | 25.594 | – | 92.855 | 1.235 | 5.01 | 2.203 | 44.0 |
| June | 83.730 | – | 42.953 | – | 42.953 | 53.517 | 0.616 | 1.390 | 1.077 | 70.207 | – | 17.917 | 68.113 | 0.906 | 2.86 | 1.564 | 54.6 |
| July | 108.039 | – | 54.055 | 1.739 | 55.794 | 56.036 | 1.177 | 0.548 | 0.016 | 8.807 | – | 20.123 | –5.784 | –0.077 | 1.81 | –0.138 | –7.6 |
| August | 129.152 | – | 42.093 | 9.965 | 52.058 | 54.452 | 0.639 | 0.819 | 1.275 | 28.632 | 32.261 | – | 40.984 | 0.545 | 8.58 | 0.972 | 11.3 |
| September | 118.803 | – | 44.237 | 1.000 | 45.237 | 54.083 | 0.473 | 0.887 | 0.660 | 31.863 | 3.107 | – | 17.507 | 0.233 | 4.32 | 0.402 | 9.3 |
| October | 103.510 | – | 39.368 | – | 39.368 | 55.532 | 0.632 | 0.765 | 0.674 | 45.797 | – | 21.297 | 17.961 | 0.239 | 0.45 | 0.426 | 94.7 |
| November | 69.663 | – | 37.023 | – | 37.023 | 55.587 | 0.500 | 0.643 | 0.123 | 20.957 | – | 28.870 | 16.300 | 0.217 | 1.24 | 0.374 | 30.1 |
| December | 142.135 | – | 41.861 | – | 41.861 | 57.145 | 0.548 | 0.778 | 0.716 | 56.213 | 18.355 | – | 33.481 | 0.445 | 4.19 | 0.794 | 19.0 |
| Total | | | | | | | | | | | | | | | 40.06 | 19.085 | 47.6 |
| Average for Year | 93.287 | – | 42.016 | 1.076 | 43.092 | 55.339 | 0.538 | 1.131 | 0.876 | 59.124 | 9.124 | 7.602 | 68.335 | 0.909 | | | |

TABLE NO. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1941*

(Watershed of Lake=17.40 square miles)

| MONTH | GALLONS PER DAY | | | | | | | RAINFALL | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Water* discharged through Cochituate Aqueduct* | *Water diverted from Watershed by Sewers, etc.* | *Water wasted at Outlet of Lake* | STORAGE | | *Total Yield of Watershed* | *Yield per Square Mile* | *Rainfall (Inches)* | *Rainfall Collected (Inches)* | *Percentage of Rainfall* |
| | | | | *Gain* | *Loss* | | | | | |
| JANUARY | – | 1,352,000 | 10,616,000 | 1,616,000 | – | 13,584,000 | 781,000 | 4.02 | 1.393 | 34.6 |
| FEBRUARY | – | 1,364,000 | 33,604,000 | – | 12,161,000 | 22,807,000 | 1,311,000 | 2.40 | 2.112 | 88.0 |
| MARCH | – | 1,310,000 | 19,803,000 | 919,000 | – | 22,032,000 | 1,266,000 | 2.75 | 2.259 | 82.1 |
| APRIL | – | 1,193,000 | 12,887,000 | 2,177,000 | – | 16,257,000 | 934,000 | 1.47 | 1.613 | 109.7 |
| MAY | – | 803,000 | – | 5,987,000 | – | 6,790,000 | 390,000 | 2.28 | 0.696 | 30.5 |
| JUNE | – | 637,000 | – | 4,190,000 | – | 4,827,000 | 277,000 | 4.32 | 0.479 | 11.1 |
| JULY | – | 384,000 | – | – | 113,000 | 271,000 | 16,000 | 2.90 | 0.028 | 1.0 |
| AUGUST | – | 239,000 | 3,687,000 | – | 5,516,000 | –1,590,000 | –91,000 | 2.93 | –10.163 | –5.6 |
| SEPTEMBER | – | 83,000 | – | – | 2,553,000 | –2,470,000 | –142,000 | 0.60 | –0.245 | –40.8 |
| OCTOBER | 12,136,000 | 87,000 | – | – | 9,958,000 | 2,265,000 | 130,000 | 1.88 | 0.232 | 12.3 |
| NOVEMBER | 460,000 | 333,000 | – | 2,237,000 | – | 3,030,000 | 174,000 | 3.04 | 0.301 | 9.9 |
| DECEMBER | – | 390,000 | – | 3,748,000 | – | 4,139,000 | 238,000 | 3.77 | 0.424 | 11.3 |
| Total | | | | | | | | 32.36 | 9.128 | 28.2 |
| Average for Year | 1,069,000 | 677,000 | 6,534,000 | – | 718,000 | 7,562,000 | 435,000 | | | |

* Wasted in flushing and cleaning Aqueduct.

TABLE No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1942*

(Area of Watershed of Lake=17.40 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from Sudbury Aqueduct | Discharged through Cochituate Aqueduct | | | Diverted from Watershed by Sewers, etc. | Wasted at Outlet of Lake | Storage | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | To Chestnut Hill Reservoir | To Brookline Reservoir | Total | | | Gain | Loss | | | | | |
| January | – | – | – | – | 0.636 | 0.729 | 8.129 | – | 9.494 | 0.546 | 5.12 | 0.973 | 19.0 |
| February | – | – | – | – | 1.132 | 7.614 | 4.500 | – | 13.246 | 0.761 | 3.15 | 1.227 | 38.9 |
| March | – | – | – | – | 2.061 | 50.923 | – | 2.897 | 50.087 | 2.879 | 8.39 | 5.135 | 61.2 |
| April | – | – | – | – | 1.450 | 18.753 | – | 1.470 | 18.733 | 1.077 | 1.90 | 1.859 | 97.8 |
| May | – | – | – | – | 0.923 | 7.661 | 1.506 | – | 10.090 | 0.580 | 2.51 | 1.034 | 41.2 |
| June | – | – | – | – | 0.580 | 2.717 | 1.413 | – | 4.710 | 0.271 | 3.13 | 0.467 | 14.9 |
| July | – | – | – | – | 0.461 | 3.210 | 4.303 | – | 7.974 | 0.458 | 8.27 | 0.817 | 9.9 |
| August | – | – | – | – | 0.590 | 6.110 | – | 3.677 | 3.023 | 0.174 | 2.44 | 0.310 | 12.7 |
| September | – | – | – | – | 0.280 | – | – | 0.337 | –0.057 | –0.003 | 2.22 | –0.006 | –0.3 |
| October | – | – | – | – | 0.638 | – | 2.597 | – | 3.235 | 0.186 | 3.71 | 0.332 | 8.9 |
| November | 0.056 | – | – | – | 0.793 | 12.447 | – | 0.947 | 12.237 | 0.703 | 6.36 | 1.214 | 19.1 |
| December | – | – | – | – | 1.435 | 32.606 | – | 0.677 | 33.364 | 1.918 | 7.58 | 3.420 | 45.1 |
| Total | | | | | | | | | | | 54.78 | 16.782 | 30.6 |
| Average for Year | 0.005 | – | – | – | 0.915 | 11.970 | 1.024 | – | 13.904 | 0.799 | | | |

TABLE No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1943*

(Area of Watershed of Lake=17.40 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from Sudbury Aqueduct | Discharged through Cochituate Aqueduct | | | Diverted from Watershed by Sewers, etc. | Wasted at Outlet of Lake | Storage | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | To Chestnut Hill Reservoir | To Brookline Reservoir | Total | | | Gain | Loss | | | | | |
| January | – | – | – | – | 1.303 | 21.752 | – | 5.987 | 17.068 | 0.981 | 3.58 | 1.750 | 48.9 |
| February | – | – | – | – | 1.529 | 18.000 | 4.500 | – | 24.029 | 1.381 | 1.46 | 2.225 | 152.4 |
| March | – | – | – | – | 1.852 | 37.787 | – | 1.774 | 37.865 | 2.176 | 4.15 | 3.882 | 93.5 |
| April | – | – | – | – | 1.533 | 15.694 | 3.793 | – | 21.020 | 1.208 | 4.36 | 2.085 | 47.8 |
| May | – | – | – | – | 1.935 | 25.800 | 0.413 | – | 28.148 | 1.618 | 4.99 | 2.886 | 57.8 |
| June | – | – | – | – | 0.873 | 8.664 | – | 3.467 | 6.070 | 0.349 | 2.79 | 0.602 | 21.6 |
| July | – | – | 1.790 | 1.790 | 0.123 | 4.371 | – | 4.323 | 1.961 | 0.113 | 4.93 | 0.201 | 4.1 |
| August | – | – | – | – | 0.690 | 3.881 | – | 8.013 | –3.442 | –0.198 | 1.36 | –0.353 | –25.9 |
| September | – | – | – | – | 0.437 | 3.160 | – | 5.780 | –2.183 | –0.125 | 1.40 | –0.216 | –15.4 |
| October | – | – | – | – | 0.410 | 1.784 | 1.858 | – | 4.052 | 0.233 | 6.33 | 0.415 | 6.6 |
| November | – | – | – | – | 0.643 | – | 7.577 | – | 8.220 | 0.472 | 4.31 | 0.815 | 18.9 |
| December | – | – | – | – | 0.590 | – | 2.026 | – | 2.616 | 0.150 | 1.41 | 0.268 | 19.0 |
| Total | | | | | | | | | | | 41.07 | 14.560 | 35.5 |
| Average for Year | – | – | 0.152 | 0.152 | 0.990 | 11.743 | – | 0.822 | 12.063 | 0.693 | | | |

TABLE No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1944*

(Area of Watershed of Lake=17.40 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from Sudbury Aqueduct | Dicharged through Cochituate Aqueduct | | | Diverted from Watershed by Sewers, etc. | Wasted at Outlet of Lake | Storage | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | To Chestnut Hill Reservoir | To Brookline Reservoir | Total | | | Gain | Loss | | | | | |
| January | – | – | – | – | 0.710 | – | 3.942 | – | 4.652 | 0.267 | 2.23 | 0.477 | 21.4 |
| February | – | – | – | – | 1.035 | 5.200 | 2.117 | – | 8.352 | 0.480 | 3.01 | 0.801 | 26.6 |
| March | – | – | – | – | 1.432 | 12.868 | 5.177 | – | 19.477 | 1.119 | 4.69 | 1.997 | 42.6 |
| April | – | – | – | – | 1.913 | 40.103 | – | 3.256 | 38.760 | 2.228 | 4.82 | 3.845 | 79.8 |
| May | – | – | – | – | 1.155 | 11.438 | – | 3.461 | 9.132 | 0.525 | 0.91 | 0.936 | 102.9 |
| June | – | – | – | 0.963* | 0.643 | 0.867 | 5.667 | – | 8.140 | 0.468 | 6.25 | 0.808 | 12.9 |
| July | – | – | – | 7.942* | 0.558 | 13.887 | – | 19.490 | 2.897 | 0.166 | 2.56 | 0.297 | 11.6 |
| August | 4.181 | – | – | 5.619* | 0.277 | – | – | 2.471 | –0.755 | –0.043 | 1.90 | –0.077 | –4.1 |
| September | 6.077 | – | – | 6.127* | 0.360 | – | 6.590 | – | 7.000 | 0.402 | 6.99 | 0.694 | 9.9 |
| October | – | – | – | – | 0.390 | – | 2.552 | – | 2.942 | 0.169 | 2.67 | 0.301 | 11.3 |
| November | – | – | – | – | 0.677 | 0.783 | 15.647 | – | 17.107 | 0.983 | 7.42 | 1.697 | 22.9 |
| December | – | – | – | – | 1.803 | 27.584 | – | 6.164 | 23.223 | 1.335 | 3.46 | 2.381 | 68.8 |
| Total | | | | | | | | | | | 46.91 | 14.157 | 30.2 |
| Average for Year | 0.852 | – | – | 1.730 | 0.912 | 9.406 | 0.501 | – | 11.697 | 0.672 | | | |

* To Charles River.

TABLE No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1945*

(Area of Watershed of Lake=17.40 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from Sudbury Aqueduct | Discharged through Cochituate Aqueduct | | | Diverted from Watershed by Sewers, etc. | Wasted at Outlet of Lake | Storage | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | To Chestnut Hill Reservoir | To Brookline Reservoir | Total | | | Gain | Loss | | | | | |
| January | – | – | – | – | 1.281 | 14.852 | 2.145 | – | 18.277 | 1.050 | 3.39 | 1.873 | 55.3 |
| February | – | – | – | – | 0.804 | 30.814 | – | 10.332 | 21.286 | 1.223 | 5.36 | 1.971 | 36.8 |
| March | – | – | – | – | 2.423 | 45.822 | 2.300 | – | 50.545 | 2.905 | 2.91 | 5.183 | 178.1 |
| April | – | – | – | – | 1.127 | 10.393 | 5.880 | – | 17.400 | 1.000 | 3.40 | 1.726 | 50.8 |
| May | – | – | – | – | 1.493 | 21.839 | 2.384 | – | 25.716 | 1.478 | 5.62 | 2.636 | 46.9 |
| June | – | – | – | – | 1.317 | 16.590 | 2.893 | – | 20.800 | 1.195 | 7.11 | 2.064 | 29.0 |
| July | – | – | – | – | 1.045 | 10.713 | – | 5.942 | 5.816 | 0.334 | 3.26 | 0.596 | 18.3 |
| August | – | – | – | – | 0.671 | 0.290 | 2.736 | – | 3.697 | 0.212 | 3.76 | 0.379 | 10.1 |
| September | – | – | – | – | 0.473 | – | – | 0.553 | –0.080 | –0.005 | 1.47 | –0.008 | –0.5 |
| October | – | – | – | – | 0.687 | 4.751 | – | 3.390 | 2.048 | 0.118 | 2.84 | 0.210 | 7.4 |
| November | – | – | – | – | 0.977 | 10.507 | 4.763 | – | 16.247 | 0.934 | 8.64 | 1.612 | 18.7 |
| December | – | – | – | – | 2.319 | 42.448 | – | 6.535 | 38.232 | 2.197 | 8.17 | 3.919 | 48.0 |
| Total | | | | | | | | | | | 55.93 | 22.161 | 39.6 |
| Average for Year | – | – | – | – | 1.224 | 17.397 | 1.925 | 2.186 | 18.360 | 1.055 | | | |

## Table No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1946*

(Area of Watershed of Lake=17.40 square miles)

| Month | Million Gallons Per Day | | | | | | | | | | Rainfall (Inches) | Rainfall Collected (Inches) | Percentage of Rainfall Collected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Received from Sudbury Aqueduct | Discharged through Cochituate Aqueduct | | | Diverted from Watershed by Sewers, etc. | Wasted at Outlet of Lake | Storage | | Total Yield of Watershed | Yield per Square Mile | | | |
| | | To Chestnut Hill Reservoir | To Brookline Reservoir | Total | | | Gain | Loss | | | | | |
| January | – | – | – | – | 2.381 | 31.161 | – | 2.648 | 30.894 | 1.775 | 3.98 | 3.167 | 79.6 |
| February | – | – | – | – | 1.675 | 29.643 | 1.368 | – | 32.686 | 1.878 | 3.47 | 3.027 | 87.2 |
| March | – | – | – | – | 2.103 | 42.158 | – | 2.522 | 41.739 | 2.399 | 1.92 | 4.279 | 222.9 |
| April | – | – | – | – | 1.420 | 14.306 | 2.227 | – | 17.953 | 1.032 | 3.47 | 1.781 | 51.3 |
| May | – | – | – | – | 1.268 | 15.474 | 3.306 | – | 20.048 | 1.152 | 5.90 | 2.055 | 34.8 |
| June | – | – | – | – | 1.426 | 22.007 | – | 7.870 | 15.563 | 0.894 | 3.75 | 1.544 | 41.2 |
| July | 1.739 | – | – | 1.342* | 0.106 | – | – | 1.119 | –1.410 | –0.081 | 1.63 | –0.145 | –8.9 |
| August | 9.965 | – | – | 8.445* | 0.794 | – | 8.507 | – | 7.781 | 0.447 | 9.34 | 0.798 | 8.5 |
| September | 1.000 | – | – | 0.910* | 0.780 | 9.074 | – | 5.397 | 4.367 | 0.251 | 3.41 | 0.433 | 12.7 |
| October | – | – | – | – | 0.797 | – | 1.964 | – | 2.761 | 0.159 | 0.44 | 0.283 | 64.3 |
| November | – | – | – | – | 0.797 | – | 1.510 | – | 2.307 | 0.133 | 1.41 | 0.229 | 16.2 |
| December | – | – | – | – | 0.555 | 7.568 | – | 0.165 | 7.958 | 0.457 | 4.70 | 0.816 | 17.4 |
| Total | | | | | | | | | | | 43.42 | 18.267 | 42.1 |
| Average for Year | 1.076 | – | – | 0.906* | 1.172 | 14.188 | 1.582 | 1.638 | 15.134 | 0.870 | | | |

*Wasted to Charles River.

TABLE NO. 6. — *Sources from which and Periods during which Water has been drawn for the Supply of the Metropolitan Water District in 1941*

*From Wachusett Reservoir into the Wachusett Aqueduct*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | * *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| JANUARY | 26 | 346 | 40 | 3,866.1 |
| FEBRUARY | 23 | 259 | 50 | 2,910.9 |
| MARCH | 26 | 314 | 25 | 3,540.0 |
| APRIL | 25 | 307 | 50 | 3,464.5 |
| MAY | 26 | 336 | 55 | 3,902.5 |
| JUNE | 25 | 331 | 50 | 4,281.0 |
| JULY | 27 | 346 | 40 | 5,026.3 |
| AUGUST | 29 | 329 | 25 | 5,938.6 |
| SEPTEMBER | 25 | 331 | 50 | 4,218.0 |
| OCTOBER | 30 | 346 | 40 | 5,778.0 |
| NOVEMBER | 23 | 292 | 25 | 3,712.5 |
| DECEMBER | 26 | 346 | 40 | 4,370.5 |
| Totals | 311 | 162.132 days | | 51,008.9 |

* Including quantity supplied Westborough State Hospital.

*From Sudbury Reservoir through the Weston Aqueduct to Weston Reservoir*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| JANUARY | 31 | 735 | 00 | 3,507.0 |
| FEBRUARY | 28 | 672 | 00 | 3,176.5 |
| MARCH | 31 | 744 | 00 | 3,511.4 |
| APRIL | 30 | 719* | 00 | 3,340.8 |
| MAY | 31 | 743 | 44 | 3,454.7 |
| JUNE | 30 | 720 | 00 | 3,363.9 |
| JULY | 31 | 744 | 00 | 3,571.5 |
| AUGUST | 31 | 744 | 00 | 3,576.5 |
| SEPTEMBER | 30 | 720* | 46 | 3,515.5 |
| OCTOBER | 31 | 744 | 00 | 3,587.0 |
| NOVEMBER | 30 | 714 | 45 | 3,307.6 |
| DECEMBER | 31 | 744 | 00 | 3,488.0 |
| Totals | 365 | 364.385 days | | 41,400.4 |

*Daylight Saving change.

*From Framingham Reservoir No. 3 through Sudbury Aqueduct to Chestnut Hill Reservoir*

| Month | Number of Days during which Water was Flowing | Actual Time | | Million Gallons Drawn |
|---|---|---|---|---|
| | | Hours | Minutes | |
| January | 31 | 744 | 00 | 778.5 |
| February | 28 | 672 | 00 | 697.0 |
| March | 31 | 744 | 00 | 679.6 |
| April | 30 | 719* | 00 | 622.1 |
| May | 31 | 744 | 00 | 699.8 |
| June | 30 | 720 | 00 | 760.8 |
| July | 31 | 744 | 00 | 1,062.6 |
| August | 31 | 744 | 00 | 1,002.3 |
| September | 30 | 721* | 00 | 1,009.6 |
| October | 31 | 744 | 00 | 876.3 |
| November | 30 | 720 | 00 | 723.4 |
| December | 31 | 744 | 00 | 953.7 |
| Totals | 365 | 365.00 days | | 9,865.7 |

*Daylight Saving change.

TABLE No. 6. — *Sources from which and Periods during which Water has been drawn for the Supply of the Metropolitan Water District in 1942*

*From Wachusett Reservoir into the Wachusett Aqueduct*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | * *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| JANUARY | 26 | 336 | 55 | 3,948.3 |
| FEBRUARY | 23 | 302 | 10 | 3,230.6 |
| MARCH | 12 | 147 | 30 | 1,438.4 |
| APRIL | 25 | 253 | 05 | 2,958.8 |
| MAY | 25 | 290 | 35 | 3,378.8 |
| JUNE | 28 | 515 | 00 | 4,476.2 |
| JULY | 29 | 520 | 40 | 4,895.4 |
| AUGUST | 26 | 336 | 55 | 4,288.8 |
| SEPTEMBER | 26 | 457 | 15 | 4,782.4 |
| OCTOBER | 28 | 468 | 10 | 4,777.5 |
| NOVEMBER | 23 | 296 | 30 | 3,777.8 |
| DECEMBER | 24 | 302 | 15 | 2,921.9 |
| Totals | 295 | 176.125 days | | 44,874.9 |

*Including quantity supplied Westborough State Hospital.

*From Sudbury Reservoir through the Weston Aqueduct to Weston Reservoir*

| MONTH | *Number of Days during which Water was Flowing* | ACTUAL TIME | | *Million Gallons Drawn* |
|---|---|---|---|---|
| | | *Hours* | *Minutes* | |
| JANUARY | 31 | 744 | 00 | 3,491.0 |
| FEBRUARY | 28 | 671* | 00 | 3,103.0 |
| MARCH | 31 | 744 | 00 | 3,278.0 |
| APRIL | 30 | 709 | 30 | 3,139.5 |
| MAY | 31 | 744 | 00 | 3,388.0 |
| JUNE | 30 | 719 | 55 | 3,310.0 |
| JULY | 31 | 742 | 57 | 3,470.0 |
| AUGUST | 31 | 744 | 00 | 3,522.0 |
| SEPTEMBER | 30 | 720 | 00 | 3,419.0 |
| OCTOBER | 31 | 718 | 12 | 3,465.0 |
| NOVEMBER | 30 | 720 | 00 | 3,349.0 |
| DECEMBER | 31 | 741 | 00 | 3,407.0 |
| Totals | 365 | 363.274 days | | 40,341.5 |

*Daylight Saving change.

*From Framingham Reservoir No. 3 through Sudbury Aqueduct to Chestnut Hill Reservoir*

| Month | Number of Days during which Water was Flowing | Actual Time | | Million Gallons Drawn |
|---|---|---|---|---|
| | | Hours | Minutes | |
| January | 31 | 744 | 00 | 1,040.1 |
| February | 28 | 671* | 00 | 817.0 |
| March | 31 | 744 | 00 | 727.6 |
| April | 30 | 720 | 00 | 763.6 |
| May | 31 | 744 | 00 | 866.1 |
| June | 30 | 720 | 00 | 1,014.5 |
| July | 31 | 744 | 00 | 1,076.2 |
| August | 31 | 744 | 00 | 1,059.1 |
| September | 30 | 720 | 00 | 998.9 |
| October | 31 | 744 | 00 | 930.6 |
| November | 30 | 712 | 00 | 795.2 |
| December | 31 | 744 | 00 | 1,118.1 |
| Totals | 365 | 364.625 days | | 11,207.0 |

*Daylignt Saving change.

TABLE NO. 6. — *Sources from which Water has been drawn for the Supply of the Metropolitan Water District in 1943*

(Million Gallons)

| MONTH | *From[1] Wachusett Reservoir into Wachusett Aqueduct* | *From Wachusett Aqueduct into Sudbury Reservoir* | *From Sudbury Reservoir through Weston Aqueduct into Metropolitan District* | *From Wachusett Aqueduct through Pressure Aqueduct into Metropolitan District* | *From Framingham Reservoir No. 3 through Sudbury Aqueduct into Chestnut Hill Reservoir* | *From Lake Cochituate through Cochituate Aqueduct into Chestnut Hill Reservoir* |
|---|---|---|---|---|---|---|
| JANUARY | 3,447.3 | 3,440.1 | 3,504.0 | – | 1,128.7 | – |
| FEBRUARY | 2,936.8 | 2,930.1 | 3,231.0 | – | 997.9 | – |
| MARCH | 2,992.3 | 2,984.9 | 3,590.0 | – | 912.5 | – |
| APRIL | 3,719.3 | 3,712.4 | 3,432.0 | – | 753.5 | – |
| MAY | 2,515.7 | 2,488.8 | 3,423.0 | – | 748.7 | – |
| JUNE | 4,153.2 | 4,145.9 | 3,440.0 | – | 1,085.0 | –[5] |
| JULY | 5,965.4 | 5,789.6[2] | 3,649.0 | 116.9 | 1,222.7 | – |
| AUGUST | 5,410.9 | 4,443.8 | 2,905.2 | 972.1 | 1,236.2 | – |
| SEPTEMBER | 4,678.1 | 4,073.4 | 2,895.1[3] | 577.7 | 1,074.0 | – |
| OCTOBER | 4,706.3 | 4,120.9 | 2,982.0 | 602.5 | 965.6 | – |
| NOVEMBER | 3,965.8 | 3,318.2 | 2,842.0 | 634.0 | 869.4 | – |
| DECEMBER | 4,254.6 | 3,547.1 | 2,974.0 | 704.6 | 1,226.8 | – |
| Totals | 48,745.7 | 44,995.2[2] | 38,867.3[3] | 3,607.8[4] | 12,221.0 | –[5] |

[1] Including quantity supplied Westborough State Hospital and 3,672.4 million gallons diverted into Pressure Aqueduct for cleaning and other operating purposes and the supply of the Metropolitan Water District.

[2] Including 8.0 million gallons diverted from Pressure Aqueduct.

[3] Including 1.1 million gallons diverted from Pressure Aqueduct.

[4] Not including diversions under notes (2) and (3) above, nor diversions for cleaning and other operating purposes.

[5] Not including 55.5 million gallons from Lake Cochituate through Cochituate Aqueduct into Brookline Reservoir.

TABLE No. 6. — *Sources from which Water has been drawn for the Supply of the Metropolitan Water District in 1944*

(Million Gallons)

| MONTH | *From[1] Wachusett Reservoir into Wachusett Aqueduct* | *From Wachusett Aqueduct into Sudbury Reservoir* | *From Sudbury Reservoir through Weston Aqueduct into Metropolitan District* | *From Wachusett Aqueduct through Pressure Aqueduct into Metropolitan District* | *From Framingham Reservoir No. 3 through Sudbury Aqueduct into Chestnut Hill Reservoir* | *From Lake Cochituate[2] through Cochituate Aqueduct into Chestnut Hill Reservoir* |
|---|---|---|---|---|---|---|
| JANUARY | 4,567.3 | 3,725.9 | 2,936.0 | 812.74 | 1,210.7 | – |
| FEBRUARY | 4,979.6 | 4,251.7 | 2,706.0 | 720.97 | 1,118.3 | – |
| MARCH | 3,704.3 | 3,015.4 | 2,855.0 | 680.95 | 904.5 | – |
| APRIL | 3,120.0 | 2,507.8 | 2,716.0 | 594.26 | 773.2 | – |
| MAY | 4,119.1 | 3,455.6 | 2,813.0 | 669.71 | 1,076.7 | – |
| JUNE | 5,260.9 | 4,469.2 | 2,737.0 | 781.42 | 1,136.8 | 28.9 |
| JULY | 5,329.6 | 4,493.4 | 2,879.0 | 822.88 | 1,272.1 | 246.2 |
| AUGUST | 6,153.9 | 5,286.6 | 2,885.0 | 853.75 | 1,459.6 | 174.2 |
| SEPTEMBER | 5,230.4 | 4,178.8 | 2,790.0 | 1,034.99 | 1,170.7 | 183.8 |
| OCTOBER | 5,087.3 | 4,277.4 | 2,912.0 | 810.78 | 1,113.8 | – |
| NOVEMBER | 4,545.5 | 3,831.1 | 2,828.0 | 702.78 | 1,022.9 | – |
| DECEMBER | 3,000.8 | 2,308.4 | 2,852.0 | 682.33 | 1,222.4 | – |
| Totals | 55,098.7 | 45,801.2 | 33,909.0 | 9,167.56 | 13,481.7 | 633.1 |

[1] Including quantity supplied to Westborough State Hospital and 9,198.8 million gallons diverted into Pressure Aqueduct.

[2] Diverted to Charles River.

TABLE No. 6. — *Sources from which Water has been drawn for the Supply of the Metropolitan Water District in 1945*

(Million Gallons)

| MONTH | *From*[1] *Wachusett Reservoir into Wachusett Aqueduct* | *From Wachusett Aqueduct into Sudbury Reservoir* | *From Sudbury Reservoir through Weston Aqueduct into Metropolitan District* | *From Wachusett Aqueduct through Pressure Aqueduct into Norumbega Reservoir* | *From Framingham Reservoir No. 3 through Sudbury Aqueduct into Chestnut Hill Reservoir* | *From Lake Cochituate through Cochituate Aqueduct into Chestnut Hill Reservoir* |
|---|---|---|---|---|---|---|
| JANUARY . | 4,876.9 | 3,904.0 | 2,880.0 | 966.9 | 1,402.8 | – |
| FEBRUARY | 4,030.1 | 3,061.2 | 2,593.0 | 963.3 | 1,159.5 | – |
| MARCH . | 2,845.6 | 1,876.3 | 2,825.0 | 963.3 | 1,058.2 | – |
| APRIL . | 3,925.1 | 2,999.8 | 2,417.7 | 919.3 | 1,053.5 | – |
| MAY . | 3,574.2 | 1,790.2 | 1,730.6 | 1,777.9 | 1,064.6 | – |
| JUNE . | 3,906.4 | 2,251.0 | 1,688.2 | 1,649.1 | 1,192.0 | – |
| JULY . | 4,743.1 | 3,333.6 | 2,270.7 | 1,403.0 | 1,401.4 | – |
| AUGUST . | 5,627.7 | 4,628.3 | 2,799.0 | 992.7 | 1,383.4 | – |
| SEPTEMBER | 4,802.4 | 3,924.9 | 2,690.0 | 870.9 | 1,399.5 | – |
| OCTOBER . | 5,104.0 | 4,256.9 | 2,810.0 | 840.6 | 1,253.3 | – |
| NOVEMBER | 3,321.1 | 2,298.3 | 2,497.8 | 1,016.6 | 1,078.6 | – |
| DECEMBER | 2,272.5 | 676.1 | 1,741.0 | 1,590.0 | 1,389.5 | – |
| Totals . | 49,029.1 | 35,000.6 | 28,943.0 | 13,953.6 | 14,836.3 | – |

[1] Including quantity supplied to Westborough State Hospital.

TABLE No. 6. — *Sources from which Water has been drawn for the Supply of the Metropolitan Water District in 1946*

(Million Gallons)

| MONTH | *From[1] Wachusett Reservoir into Wachusett Aqueduct* | *From Wachusett Aqueduct into Sudbury Reservoir* | *From Sudbury Reservoir through Weston Aqueduct into Metropolitan District* | *From Wachusett Aquiduct through Pressure Aqueduct into Norumbega Reservoir* | *From Framingham Reservoir No. 3 through Sudbury Aqueduct into Chestnut Hill Reservoir* | *From Lake Cochituate through Cochituate Aqueduct into Chestnut Hill Reservoir* |
|---|---|---|---|---|---|---|
| JANUARY | 3,801.8 | 1,888.6 | 1,778.5 | 1,906.9 | 1,512.9 | – |
| FEBRUARY | 4,191.2 | 2,226.0 | 1,588.9 | 1,959.7 | 1,290.8 | – |
| MARCH | 3,797.4 | 1,767.8 | 1,689.3 | 2,023.5 | 1,189.8 | – |
| APRIL | 4,406.8 | 2,450.7 | 1,654.5 | 1,950.0 | 1,011.1 | – |
| MAY | 4,622.9 | 2,582.7 | 1,673.9 | 2,033.6 | 1,106.0 | – |
| JUNE | 4,444.1 | 2,511.9 | 1,605.5 | 1,925.7 | 1,288.6 | – |
| JULY | 5,498.1 | 3,349.2 | 1,737.1 | 2,141.4 | 1,675.7 | – |
| AUGUST | 6,007.7 | 4,003.7 | 1,688.0 | 1,997.3 | 1,304.9 | – |
| SEPTEMBER | 5,529.5 | 3,564.1 | 1,622.5 | 1,958.7 | 1,327.1 | – |
| OCTOBER | 5,277.9 | 3,208.8 | 1,721.5 | 2,062.4 | 1,220.4 | – |
| NOVEMBER | 4,153.9 | 2,089.9 | 1,667.6 | 2,057.7 | 1,110.7 | – |
| DECEMBER | 6,651.9 | 4,406.2 | 1,771.5 | 2,239.5 | 1,297.7 | – |
| Totals | 58,383.2 | 34,049.6 | 20,198.8 | 24,256.4 | 15,335.7 | – |

[1] Including quantity supplied to Westborough State Hospital.

TABLE No. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1941 by Months*

| MONTH | *Wachusett Aqueduct into Sudbury Reservoir (Gallons)* | *Weston Aqueduct into Metropolitan District (Gallons)* | *Sudbury Aqueduct into Chestnut Hill Reservoir (Gallons)* | *Cochituate Aqueduct into Chestnut Hill Reservoir (Gallons)* |
|---|---|---|---|---|
| JANUARY | 124,503,000 | 113,129,000 | 25,113,000 | – |
| FEBRUARY | 97,039,000 | 113,446,000 | 24,893,000 | – |
| MARCH | 109,477,000 | 113,271,000 | 21,923,000 | – |
| APRIL | 115,250,000 | 111,360,000 | 20,737,000 | – |
| MAY | 125,668,000 | 111,442,000 | 22,574,000 | – |
| JUNE | 142,477,000 | 112,130,000 | 25,360,000 | – |
| JULY | 160,942,000 | 115,210,000 | 34,277,000 | – |
| AUGUST | 191,329,000 | 115,371,000 | 32,332,000 | – |
| SEPTEMBER | 139,693,000 | 117,183,000 | 33,653,000 | – |
| OCTOBER | 186,171,000 | 115,710,000 | 28,268,000 | – |
| NOVEMBER | 123,533,000 | 110,253,000 | 24,113,000 | – |
| DECEMBER | 140,774,000 | 112,516,000 | 30,764,000 | – |
| Average | 138,495,000 | 113,426,000 | 27,029,000 | – |

TABLE No. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1942 by Months*

| MONTH | *Wachusett Aqueduct into Sudbury Reservoir (Gallons)* | *Weston Aqueduct into Metropolitan District (Gallons)* | *Sudbury Aqueduct into Chestnut Hill Reservoir (Gallons)* | *Cochituate Aqueduct into Chestnut Hill Reservoir (Gallons)* |
|---|---|---|---|---|
| JANUARY | 126,822,000 | 112,613,000 | 33,552,000 | – |
| FEBRUARY | 115,168,000 | 110,821,000 | 29,179,000 | – |
| MARCH | 46,190,000 | 105,742,000 | 23,471,000 | – |
| APRIL | 97,980,000 | 105,093,000 | 25,453,000 | – |
| MAY | 108,793,000 | 109,290,000 | 27,939,000 | – |
| JUNE | 147,557,000 | 110,333,000 | 33,817,000 | – |
| JULY | 157,651,000 | 111,936,000 | 34,716,000 | – |
| AUGUST | 137,716,000 | 113,613,000 | 34,164,000 | – |
| SEPTEMBER | 159,173,000 | 113,966,000 | 33,297,000 | – |
| OCTOBER | 153,874,000 | 111,774,000 | 30,019,000 | – |
| NOVEMBER | 125,687,000 | 111,633,000 | 26,507,000 | – |
| DECEMBER | 94,016,000 | 109,903,000 | 36,068,000 | – |
| Average | 122,503,000 | 110,561,000 | 30,704,000 | – |

TABLE NO. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1943 by Months*

(Million Gallons)

| MONTH | *Wachusett Aqueduct into Sudbury Reservoir* | *Pressure Aqueduct into Metropolitan District* | *Sudbury Aqueduct into Chestnut Hill Reservoir* | *Cochituate Aqueduct into Chestnut Hill Reservoir* | *Weston Aqueduct into Metropolitan District* |
|---|---|---|---|---|---|
| JANUARY | 110.971 | – | 36.410 | – | 113.032 |
| FEBRUARY | 104.646 | – | 35.639 | – | 115.393 |
| MARCH | 96.287 | – | 29.435 | – | 115.807 |
| APRIL | 123.747 | – | 25.117 | – | 114.400 |
| MAY | 80.284 | – | 24.152 | – | 110.419 |
| JUNE | 138.197 | – | 36.167 | – | 114.667 |
| JULY | 186.761 | 3.771 | 39.442 | – | 117.710 |
| AUGUST | 143.348 | 31.358 | 39.877 | – | 93.716 |
| SEPTEMBER | 135.780 | 19.257 | 35.800 | – | 96.504 |
| OCTOBER | 132.932 | 19.435 | 31.148 | – | 96.194 |
| NOVEMBER | 110.607 | 21.133 | 28.980 | – | 94.733 |
| DECEMBER | 114.423 | 22.729 | 39.574 | – | 95.936 |
| Average | 123.275 [1] | 9.884 [2] | 33.482 | – [3] | 106.486 [4] |

[1] Including 0.022 million gallons diverted from Pressure Aqueduct.
[2] Beginning July 28, 1944. Not including diversions under notes ([1]) and ([4]), nor water diverted for cleaning and other operating purposes.
[3] Not including 0.151 million gallons, Cochituate Aqueduct into Brookline Reservoir.
[4] Including 0.008 million gallons diverted from Pressure Aqueduct.

TABLE No. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1944 by Months*

(Million Gallons)

| MONTH | *Wachusett Aqueduct into Sudbury Reservoir* | *Pressure Aqueduct into Metropolitan District* | *Sudbury Aqueduct into Chestnut Hill Reservoir* | *Cochituate Aqueduct into Chestnut Hill Reservoir* | *Weston Aqueduct into Metropolitan District* |
|---|---|---|---|---|---|
| JANUARY | 120.190 | 26.952 | 39.055 | – | 94.710 |
| FEBRUARY | 146.607 | 24.923 | 38.562 | – | 93.310 |
| MARCH | 97.271 | 22.038 | 29.177 | – | 92.097 |
| APRIL | 83.593 | 20.220 | 25.773 | – | 90.533 |
| MAY | 111.471 | 21.213 | 34.732 | – | 90.742 |
| JUNE | 148.973 | 26.192 | 37.893 | 0.963 | 91.234 |
| JULY | 144.952 | 26.765 | 41.035 | 7.942 | 92.872 |
| AUGUST | 170.535 | 27.760 | 47.084 | 5.619 | 93.064 |
| SEPTEMBER | 139.293 | 34.843 | 39.023 | 6.127 | 93.000 |
| OCTOBER | 137.980 | 25.929 | 35.929 | – | 93.936 |
| NOVEMBER | 127.704 | 23.620 | 34.096 | – | 94.267 |
| DECEMBER | 74.464 | 22.138 | 39.432 | – | 92.000 |
| Average | 125.140 | 25.207 | 36.835 | 1.730[1] | 92.648 |

[1] Diverted to Charles River.

TABLE No. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1945 by Months*

(Million Gallons)

| MONTH | *Wachusett Aqueduct into Sudbury Reservoir* | *Norumbega Reservoir into Metropolitan District* | *Sudbury Aqueduct into Chestnut Hill Reservoir* | *Cochituate Aqueduct into Chestnut Hill Reservoir* | *Weston Aqueduct into Metropolitan District* |
|---|---|---|---|---|---|
| JANUARY | 125.935 | 31.312 | 45.251 | – | 92.903 |
| FEBRUARY | 109.329 | 34.269 | 41.411 | – | 92.607 |
| MARCH | 60.526 | 30.626 | 34.135 | – | 91.129 |
| APRIL | 99.993 | 30.588 | 35.117 | – | 80.590 |
| MAY | 57.748 | 57.238 | 34.342 | – | 55.826 |
| JUNE | 75.033 | 54.834 | 39.733 | – | 56.273 |
| JULY | 107.535 | 45.396 | 45.206 | – | 73.248 |
| AUGUST | 149.300 | 31.902 | 44.626 | – | 90.290 |
| SEPTEMBER | 130.830 | 28.527 | 46.650 | – | 89.666 |
| OCTOBER | 137.319 | 27.241 | 40.429 | – | 90.645 |
| NOVEMBER | 76.610 | 33.589 | 35.953 | – | 83.260 |
| DECEMBER | 21.810 | 51.181 | 44.823 | – | 56.161 |
| Average | 95.892 | 38.103 | 40.647 | – | 79.296 |

## Table No. 7. — *Average Daily Quantity of Water Flowing through Aqueducts in 1946 by Months*

(Million Gallons)

| Month | *Wachusett Aqueduct into Sudbury Reservoir* | *Norumbega Reservoir into Metropolitan District* | *Sudbury Aqueduct into Chestnut Hill Reservoir* | *Cochituate Aqueduct into Chestnut Hill Reservoir* | *Weston Aqueduct into Metropolitan District* |
|---|---|---|---|---|---|
| January | 60.923 | 61.133 | 48.803 | – | 57.371 |
| February | 79.500 | 69.904 | 46.100 | – | 56.746 |
| March | 57.026 | 65.230 | 38.381 | – | 54.494 |
| April | 81.690 | 64.933 | 33.703 | – | 55.150 |
| May | 83.313 | 65.532 | 35.677 | – | 53.997 |
| June | 83.730 | 64.117 | 42.953 | – | 53.517 |
| July | 108.039 | 68.913 | 54.055 | – | 56.036 |
| August | 129.152 | 64.289 | 42.093 | – | 54.452 |
| September | 118.803 | 65.229 | 44.237 | – | 54.083 |
| October | 103.510 | 66.416 | 39.368 | – | 55.532 |
| November | 69.663 | 68.340 | 37.023 | – | 55.587 |
| December | 142.135 | 72.121 | 41.861 | – | 57.145 |
| Average | 93.287 | 66.325 | 42.016 | – | 55.339 |

TABLE No. 8. — (*Meter Basis*). *Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1941*

| Month | Low Service | Southern High Service | Intermediate High Service | Northern High Service | Southern Extra High Service | Northern Extra High Service | *Total District Supplied* (Gallons) | *Estimated Population* | *Consumption per Inhabitant* (Gallons) |
|---|---|---|---|---|---|---|---|---|---|
| | *Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown* (Gallons) | *Quincy and Portions of Boston, Milton and Watertown* (Gallons) | *Portions of Arlington, Belmont and Watertown* (Gallons) | *Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville* (Gallons) | *Portions of Boston and Milton* (Gallons) | *Lexington and Portions of Arlington and Belmont* (Gallons) | | | |
| January | 78,846,700 | 49,597,400 | 1,251,300 | 12,930,800 | 1,704,000 | 1,560,100 | 145,890,300 | 1,394,140 | 105 |
| February | 77,002,000 | 49,314,000 | 1,290,800 | 12,936,200 | 1,715,600 | 1,525,000 | 143,783,600 | 1,394,470 | 103 |
| March | 75,502,400 | 47,304,900 | 1,300,800 | 12,729,700 | 1,684,800 | 1,573,100 | 140,095,700 | 1,394,800 | 100 |
| April | 73,192,700 | 46,697,000 | 1,257,400 | 12,665,900 | 1,823,600 | 1,698,000 | 137,334,600 | 1,395,130 | 98 |
| May | 71,382,000 | 48,484,800 | 1,349,800 | 13,029,600 | 1,966,900 | 1,978,600 | 138,191,700 | 1,395,460 | 99 |
| June | 75,533,300 | 51,052,200 | 1,412,000 | 14,308,100 | 1,909,900 | 2,255,100 | 146,470,600 | 1,395,790 | 105 |
| July | 79,993,300 | 53,920,000 | 1,503,600 | 15,639,700 | 2,001,400 | 2,670,000 | 155,728,000 | 1,396,120 | 112 |
| August | 77,448,200 | 53,211,600 | 1,400,100 | 15,219,400 | 1,954,800 | 2,371,200 | 151,605,300 | 1,396,450 | 109 |
| September | 77,709,400 | 53,741,400 | 1,515,100 | 14,862,700 | 2,080,100 | 2,623,600 | 152,532,300 | 1,396,780 | 109 |
| October | 74,427,800 | 50,745,400 | 1,329,300 | 13,743,000 | 1,730,300 | 1,892,200 | 143,868,000 | 1,397,100 | 103 |
| November | 73,153,500 | 49,238,300 | 1,257,000 | 13,278,500 | 1,660,900 | 1,858,600 | 140,446,800 | 1,397,430 | 101 |
| December | 77,414,800 | 52,125,900 | 1,291,800 | 13,052,200 | 1,709,300 | 1,805,500 | 147,399,500 | 1,397,760 | 105 |
| For the Year | 75,970,400 | 50,465,000 | 1,346,900 | 13,705,100 | 1,828,900 | 1,986,700 | 145,303,000 | 1,396,120 | 104 |

TABLE No. 8. — (*Meter Basis*). *Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1942*

| MONTH | LOW SERVICE *Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | SOUTHERN HIGH SERVICE *Quincy and Portions of Boston, Milton and Watertown (Gallons)* | INTERMEDIATE HIGH SERVICE *Portions of Arlington, Belmont and Watertown (Gallons)* | NORTHERN HIGH SERVICE *Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)* | SOUTHERN EXTRA HIGH SERVICE *Portions of Boston and Milton (Gallons)* | NORTHERN EXTRA HIGH SERVICE *Lexington and Portions of Arlington and Belmont (Gallons)* | *Total District Supplied (Gallons)* | *Estimated Population* | *Consumption per Inhabitant (Gallons)* |
|---|---|---|---|---|---|---|---|---|---|
| JANUARY | 82,633,100 | 53,786,600 | 1,270,000 | 13,399,600 | 1,563,400 | 1,755,600 | 154,408,300 | 1,398,090 | 110 |
| FEBRUARY | 81,555,200 | 51,667,000 | 1,260,100 | 13,180,600 | 1,508,500 | 1,695,900 | 150,867,300 | 1,398,420 | 108 |
| MARCH | 75,636,300 | 49,077,300 | 1,250,500 | 13,032,600 | 1,471,300 | 1,708,500 | 142,176,500 | 1,398,750 | 102 |
| APRIL | 74,672,400 | 49,296,200 | 1,282,400 | 12,847,900 | 1,644,600 | 1,746,900 | 141,490,400 | 1,399,080 | 101 |
| MAY | 77,079,400 | 49,909,000 | 1,358,500 | 13,423,200 | 1,805,500 | 1,900,200 | 145,475,800 | 1,399,400 | 104 |
| JUNE | 81,768,400 | 53,138,000 | 1,443,800 | 14,354,300 | 1,932,600 | 2,017,300 | 154,654,400 | 1,399,730 | 110 |
| JULY | 83,849,500 | 54,484,200 | 1,498,700 | 15,028,900 | 1,941,900 | 2,134,800 | 158,938,000 | 1,400,060 | 114 |
| AUGUST | 85,062,700 | 54,529,700 | 1,400,000 | 15,031,100 | 1,869,700 | 2,118,700 | 160,011,900 | 1,400,390 | 114 |
| SEPTEMBER | 81,879,000 | 54,078,200 | 1,439,000 | 14,605,400 | 1,922,000 | 1,999,300 | 155,922,900 | 1,400,720 | 111 |
| OCTOBER | 78,739,600 | 51,334,400 | 1,299,300 | 13,771,000 | 1,858,000 | 1,808,200 | 148,810,500 | 1,401,050 | 106 |
| NOVEMBER | 78,635,400 | 50,068,400 | 1,260,600 | 13,359,100 | 1,689,400 | 1,696,100 | 146,709,000 | 1,401,380 | 105 |
| DECEMBER | 85,587,900 | 51,401,200 | 1,177,500 | 13,036,000 | 1,579,400 | 1,635,600 | 154,417,600 | 1,401,710 | 110 |
| For the Year | 80,598,500 | 51,902,100 | 1,328,600 | 13,760,200 | 1,733,300 | 1,852,600 | 151,175,300 | 1,400,060 | 108 |

TABLE No. 8. — (*Meter Basis*). *Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1943*

| Month | Low Service<br>*Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | Southern High Service<br>*Quincy and Portions of Boston, Milton and Watertown (Gallons)* | Intermediate High Service<br>*Portions of Arlington, Belmont and Watertown (Gallons)* | Northern High Service<br>*Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)* | Southern Extra High Service<br>*Portions of Boston and Milton (Gallons)* | Northern Extra High Service<br>*Lexington and Portions of Arlington and Belmont (Gallons)* | *Total District Supplied (Gallons)* | *Estimated Population* | *Consumption per Inhabitant (Gallons)* |
|---|---|---|---|---|---|---|---|---|---|
| January | 89,265,300 | 54,244,100 | 1,176,600 | 13,601,300 | 1,632,600 | 1,683,300 | 161,603,200 | 1,402,040 | 115 |
| February | 88,308,100 | 54,160,800 | 1,168,900 | 13,566,700 | 1,680,800 | 1,745,500 | 160,630,800 | 1,402,370 | 115 |
| March | 83,660,600 | 50,889,600 | 1,182,000 | 13,372,800 | 1,670,300 | 1,705,200 | 152,480,500 | 1,402,700 | 109 |
| April | 79,222,400 | 49,588,800 | 1,131,300 | 13,313,100 | 1,680,900 | 1,671,900 | 146,608,400 | 1,403,020 | 104 |
| May | 78,698,900 | 50,258,900 | 1,178,800 | 13,477,100 | 1,777,900 | 1,795,500 | 147,187,100 | 1,403,350 | 105 |
| June | 85,889,200 | 55,926,900 | 1,511,700 | 15,610,500 | 2,161,400 | 2,432,400 | 163,532,100 | 1,403,680 | 117 |
| July | 89,025,700 | 58,326,700 | 1,621,000 | 17,174,400 | 2,341,900 | 2,747,600 | 171,237,300 | 1,404,010 | 122 |
| August | 86,830,400 | 57,601,000 | 1,411,400 | 15,549,000 | 2,134,000 | 2,351,100 | 165,876,900 | 1,404,340 | 118 |
| September | 82,261,300 | 54,580,800 | 1,383,600 | 14,659,300 | 2,077,900 | 2,396,200 | 157,359,100 | 1,404,670 | 112 |
| October | 80,217,200 | 52,853,700 | 1,206,500 | 13,778,100 | 1,928,800 | 1,947,800 | 151,932,100 | 1,405,000 | 108 |
| November | 80,985,500 | 51,595,400 | 1,213,200 | 13,184,300 | 1,828,200 | 1,847,600 | 150,654,200 | 1,405,320 | 107 |
| December | 90,657,900 | 56,480,500 | 1,326,400 | 13,299,900 | 1,773,000 | 1,704,300 | 165,242,000 | 1,405,650 | 118 |
| For the Year | 84,582,000 | 53,883,600 | 1,293,500 | 14,221,100 | 1,891,900 | 2,003,500 | 157,875,600 | 1,404,010 | 112 |

TABLE No. 8. — (*Meter Basis*). *Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1944*

| MONTH | LOW SERVICE<br>*Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | SOUTHERN HIGH SERVICE<br>*Quincy and Portions of Boston, Milton and Watertown (Gallons)* | INTERMEDIATE HIGH SERVICE<br>*Portions of Arlington, Belmont and Watertown (Gallons)* | NORTHERN HIGH SERVICE<br>*Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden Medford and Somerville (Gallons)* | SOUTHERN EXTRA HIGH SERVICE<br>*Portions of Boston and Milton (Gallons)* | NORTHERN EXTRA HIGH SERVICE<br>*Lexington and Portions of Arlington and Belmont (Gallons)* | *Total District Supplied (Gallons)* | *Estimated Population* | *Consumption per Inhabitant (Gallons)* |
|---|---|---|---|---|---|---|---|---|---|
| JANUARY | 92,058,400 | 56,072,500 | 1,319,800 | 13,246,000 | 1,886,200 | 1,827,600 | 166,410,500 | 1,405,980 | 118 |
| FEBRUARY | 89,933,700 | 53,193,100 | 1,296,200 | 13,174,400 | 1,825,200 | 1,647,600 | 161,070,200 | 1,406,310 | 115 |
| MARCH | 85,229,300 | 51,246,300 | 1,234,400 | 13,109,500 | 1,896,000 | 1,617,900 | 154,333,400 | 1,406,640 | 110 |
| APRIL | 81,235,300 | 49,990,700 | 1,247,000 | 13,262,000 | 1,964,300 | 1,686,900 | 149,386,200 | 1,406,970 | 106 |
| MAY | 84,630,500 | 54,102,300 | 1,666,200 | 14,624,600 | 2,269,800 | 2,261,400 | 159,554,800 | 1,407,290 | 113 |
| JUNE | 87,220,200 | 55,627,400 | 1,537,100 | 15,369,600 | 2,665,500 | 2,600,800 | 165,020,600 | 1,407,620 | 117 |
| JULY | 88,546,000 | 57,511,900 | 1,542,100 | 16,452,700 | 2,403,400 | 2,820,400 | 169,276,500 | 1,407,950 | 120 |
| AUGUST | 92,986,400 | 59,981,800 | 1,982,700 | 17,500,500 | 2,973,800 | 3,194,700 | 178,619,900 | 1,408,280 | 127 |
| SEPTEMBER | 85,043,600 | 55,886,700 | 1,586,800 | 15,285,400 | 2,071,900 | 2,389,700 | 162,264,100 | 1,408,610 | 115 |
| OCTOBER | 84,159,300 | 53,422,800 | 1,454,000 | 14,790,000 | 1,848,300 | 2,227,000 | 157,901,400 | 1,408,940 | 112 |
| NOVEMBER | 84,997,500 | 52,438,900 | 1,367,300 | 14,247,700 | 2,003,000 | 2,265,300 | 157,319,700 | 1,409,270 | 112 |
| DECEMBER | 91,178,400 | 55,971,900 | 1,385,000 | 14,780,700 | 1,810,400 | 2,507,100 | 167,633,500 | 1,409,600 | 119 |
| For the Year | 87,282,500 | 54,640,700 | 1,469,500 | 14,663,000 | 2,136,000 | 2,257,400 | 162,449,100 | 1,407,950 | 115 |

TABLE No. 8. — (*Meter Basis*). [1]*Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1945*

| Month | Low Service | Southern High Service | Intermediate High Service | Northern High Service | Southern Extra High Service | Northern Extra High Service | Total District Supplied (Gallons) | Estimated Population | Consumption per Inhabitant (Gallons) |
|---|---|---|---|---|---|---|---|---|---|
| | *Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | *Quincy and Portions of Boston, Milton and Watertown (Gallons)* | *Portions of Arlington, Belmont and Watertown (Gallons)* | *Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)* | *Portions of Boston and Milton (Gallons)* | *Lexington and Portions of Arlington and Belmont (Gallons)* | | | |
| January | 98,745,100 | 58,245,300 | 1,429,000 | 14,849,900 | 1,814,400 | 2,054,100 | 177,137,800 | – | 124 |
| February | 96,641,700 | 56,963,000 | 1,361,300 | 15,047,900 | 1,917,600 | 2,211,000 | 174,142,400 | – | 122 |
| March | 85,314,600 | 54,394,300 | 1,371,100 | 14,585,200 | 1,919,000 | 2,021,700 | 159,606,000 | – | 112 |
| April | 78,786,800 | 52,992,700 | 1,304,600 | 14,071,300 | 1,968,500 | 1,966,900 | 151,091,100 | – | 106 |
| May | 79,867,700 | 53,739,600 | 1,321,000 | 13,925,500 | 2,030,900 | 2,034,100 | 152,919,000 | – | 107 |
| June | 81,831,100 | 56,017,400 | 1,482,500 | 14,979,500 | 2,011,500 | 2,047,000 | 158,368,900 | – | 111 |
| July | 85,834,500 | 58,893,500 | 1,396,100 | 15,847,800 | 2,057,700 | 2,084,800 | 166,114,400 | – | 117 |
| August | 84,741,400 | 59,634,800 | 1,617,600 | 16,487,400 | 2,233,900 | 2,470,300 | 167,185,300 | – | 117 |
| September | 84,422,200 | 59,705,200 | 1,633,900 | 15,976,700 | 2,447,900 | 2,311,500 | 166,497,500 | – | 117 |
| October | 82,416,400 | 57,355,800 | 1,632,200 | 15,492,700 | 2,224,600 | 2,037,400 | 161,159,100 | – | 113 |
| November | 82,825,900 | 55,005,400 | 1,466,100 | 15,522,300 | 2,243,800 | 1,977,300 | 159,041,100 | – | 112 |
| December | 91,435,500 | 56,859,100 | 1,523,400 | 15,939,600 | 2,147,500 | 2,100,300 | 170,005,400 | – | 119 |
| For the Year | 86,030,100 | 56,655,900 | 1,462,200 | 15,229,600 | 2,085,200 | 2,109,200 | 163,572,300 | 1,424,110 | 115 |

[1] Actual averages of Total District Consumption.

TABLE No. 8. — (*Meter Basis*). [1]*Average Daily Consumption of Water by Districts in the Cities and Towns Supplied by the Metropolitan Water Works in 1946*

| MONTH | LOW SERVICE *Portions of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown (Gallons)* | SOUTHERN HIGH SERVICE *Quincy and Portions of Boston, Milton and Watertown (Gallons)* | INTERMEDIATE HIGH SERVICE *Portions of Arlington, Belmont and Watertown (Gallons)* | NORTHERN HIGH SERVICE *Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)* | SOUTHERN EXTRA HIGH SERVICE *Portions of Boston and Milton (Gallons)* | NORTHERN EXTRA HIGH SERVICE *Lexington and Portions of Arlington, Belmont and Winchester (West Side) (Gallons)* | *Total District Supplied (Gallons)* | *Estimated Population* | *Consumption per Inhabitant (Gallons)* |
|---|---|---|---|---|---|---|---|---|---|
| JANUARY | 96,493,200 | 58,999,600 | 1,493,700 | 15,917,100 | 2,047,700 | 2,097,400 | 177,048,800 | – | 124 |
| FEBRUARY | 95,880,000 | 58,543,200 | 1,466,300 | 15,656,500 | 2,056,800 | 2,102,000 | 175,704,700 | – | 123 |
| MARCH | 88,029,000 | 54,984,100 | 1,568,600 | 15,610,400 | 2,044,100 | 2,114,300 | 164,350,400 | – | 115 |
| APRIL | 83,285,700 | 52,984,900 | 1,478,100 | 14,980,500 | 2,072,800 | 2,112,800 | 156,914,800 | – | 110 |
| MAY | 82,389,100 | 54,455,000 | 1,520,000 | 15,496,400 | 2,041,500 | 2,145,200 | 158,047,200 | – | 110 |
| JUNE | 85,973,900 | 57,105,800 | 1,770,500 | 16,904,500 | 2,153,600 | 2,562,300 | 166,470,600 | – | 116 |
| JULY | 90,592,800 | 61,272,000 | 2,161,100 | 18,640,000 | 2,605,100 | 3,615,700 | 178,886,500 | – | 125 |
| AUGUST | 86,201,700 | 58,633,100 | 1,367,800 | 16,226,300 | 2,173,600 | 2,060,900 | 166,663,200 | – | 116 |
| SEPTEMBER | 84,810,200 | 58,398,700 | 1,492,000 | 16,685,700 | 1,992,700 | 2,338,100 | 165,717,500 | – | 116 |
| OCTOBER | 83,659,200 | 56,385,800 | 1,602,800 | 16,543,600 | 1,914,800 | 2,280,600 | 162,386,800 | – | 113 |
| NOVEMBER | 82,426,500 | 54,426,200 | 1,718,300 | 16,097,100 | 1,946,400 | 2,285,200 | 158,899,600 | – | 111 |
| DECEMBER | 90,574,600 | 56,716,500 | 1,720,600 | 16,118,400 | 1,879,100 | 2,183,700 | 169,193,000 | – | 118 |
| For the Year | 87,494,900 | 56,908,300 | 1,614,500 | 16,245,200 | 2,077,900 | 2,326,700 | 166,667,600 | 1,430,590 | 116 |

[1] Actual averages of Total District Consumption.

TABLE No. 9. — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1941*

| *City or Town* | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 40,390 | | 27,400 | | 771,450 | | 40,910 | | 46,890 | | 13,630 | | 58,400 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 1,992,400 | 50 | 1,446,900 | 53 | 100,724,600 | 131 | 3,485,800 | 85 | 5,217,100 | 111 | 567,900 | 42 | 4,074,900 | 70 |
| FEBRUARY | 1,978,000 | 49 | 1,462,500 | 54 | 99,007,900 | 128 | 3,441,800 | 84 | 5,209,800 | 111 | 547,500 | 41 | 3,942,500 | 68 |
| MARCH | 1,997,300 | 50 | 1,486,200 | 54 | 95,582,300 | 124 | 3,456,700 | 84 | 5,481,900 | 117 | 572,300 | 42 | 4,004,200 | 69 |
| APRIL | 2,039,200 | 51 | 1,483,200 | 54 | 93,455,100 | 121 | 3,324,200 | 81 | 5,265,100 | 112 | 652,500 | 48 | 4,006,400 | 69 |
| MAY | 2,258,800 | 56 | 1,661,400 | 61 | 92,918,400 | 120 | 3,096,100 | 76 | 5,619,300 | 120 | 760,400 | 56 | 4,057,500 | 70 |
| JUNE | 2,433,500 | 60 | 1,711,300 | 63 | 97,611,400 | 127 | 3,712,000 | 91 | 5,552,800 | 118 | 924,600 | 68 | 4,449,200 | 76 |
| JULY | 2,736,000 | 68 | 1,900,100 | 69 | 102,807,800 | 133 | 3,798,500 | 93 | 5,970,600 | 127 | 1,121,700 | 82 | 4,803,900 | 82 |
| AUGUST | 2,545,800 | 63 | 1,732,500 | 63 | 100,527,800 | 130 | 3,719,800 | 91 | 6,134,600 | 131 | 926,300 | 68 | 4,809,800 | 82 |
| SEPTEMBER | 2,654,700 | 66 | 2,039,900 | 74 | 100,837,200 | 131 | 3,775,100 | 92 | 6,280,400 | 134 | 915,300 | 67 | 4,823,300 | 82 |
| OCTOBER | 2,302,600 | 57 | 1,511,900 | 55 | 95,540,300 | 124 | 3,729,300 | 91 | 6,048,700 | 129 | 685,900 | 50 | 4,674,900 | 80 |
| NOVEMBER | 2,264,400 | 56 | 1,480,100 | 54 | 93,574,200 | 121 | 3,552,400 | 87 | 6,082,100 | 130 | 662,400 | 48 | 4,541,900 | 78 |
| DECEMBER | 2,119,500 | 52 | 1,589,100 | 58 | 100,564,000 | 130 | 3,559,500 | 87 | 6,235,600 | 133 | 644,600 | 47 | 4,321,100 | 74 |
| For the Year | 2,278,500 | 56 | 1,626,200 | 59 | 97,767,600 | 127 | 3,554,800 | 87 | 5,762,300 | 123 | 749,700 | 55 | 4,378,500 | 75 |

TABLE No. 9. — Continued — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 63,540 | | 25,500 | | 18,950 | | 1,850 | | 76,230 | | 34,500 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 3,551,400 | 56 | 1,399,500 | 55 | 922,000 | 49 | 161,500 | 87 | 5,069,000 | 67 | 1,877,400 | 55 |
| FEBRUARY | 3,606,100 | 57 | 1,373,600 | 54 | 857,900 | 45 | 180,200 | 97 | 5,008,100 | 66 | 1,868,100 | 54 |
| MARCH | 3,536,600 | 56 | 1,384,000 | 54 | 915,300 | 48 | 177,100 | 96 | 4,807,900 | 63 | 1,862,100 | 54 |
| APRIL | 3,445,600 | 54 | 1,346,300 | 53 | 996,200 | 53 | 181,200 | 98 | 4,563,400 | 60 | 1,728,200 | 50 |
| MAY | 3,428,600 | 54 | 1,380,900 | 54 | 1,062,200 | 56 | 250,400 | 135 | 4,704,500 | 62 | 1,866,500 | 54 |
| JUNE | 3,577,600 | 56 | 1,545,400 | 61 | 1,106,000 | 58 | 320,000 | 173 | 5,245,600 | 69 | 2,095,000 | 61 |
| JULY | 3,694,000 | 58 | 1,718,100 | 67 | 1,168,100 | 62 | 422,200 | 228 | 5,842,000 | 77 | 2,386,500 | 69 |
| AUGUST | 3,677,400 | 58 | 1,551,000 | 61 | 1,135,100 | 60 | 400,100 | 215 | 5,472,300 | 72 | 2,221,500 | 64 |
| SEPTEMBER | 3,951,700 | 62 | 1,568,400 | 61 | 1,195,200 | 63 | 344,900 | 185 | 5,233,900 | 69 | 1,947,200 | 56 |
| OCTOBER | 3,752,900 | 59 | 1,426,600 | 56 | 1,076,000 | 57 | 225,600 | 121 | 4,852,300 | 64 | 1,826,400 | 53 |
| NOVEMBER | 3,666,900 | 58 | 1,473,100 | 58 | 1,035,200 | 54 | 181,500 | 98 | 5,037,800 | 66 | 1,709,500 | 49 |
| DECEMBER | 3,676,800 | 58 | 1,401,100 | 55 | 993,700 | 52 | 177,700 | 96 | 5,062,100 | 66 | 1,692,600 | 49 |
| For the Year | 3,630,300 | 57 | 1,464,500 | 57 | 1,039,600 | 55 | 252,400 | 136 | 5,076,000 | 67 | 1,924,500 | 56 |

TABLE No. 9. — Concluded — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* . . | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . . | 102,300 | | 10,830 | | 10,780 | | 35,550 | | 17,020 | | 1,396,120 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . . | 10,319,600 | 101 | 650,700 | 60 | 747,400 | 69 | 2,529,500 | 71 | 1,152,700 | 68 | 145,890,300 | 105 |
| FEBRUARY . . | 10,150,000 | 99 | 665,900 | 62 | 679,700 | 63 | 2,638,800 | 74 | 1,165,200 | 69 | 143,783,600 | 103 |
| MARCH . . . | 9,625,300 | 94 | 670,600 | 62 | 661,500 | 61 | 2,663,600 | 75 | 1,210,800 | 72 | 140,095,700 | 100 |
| APRIL . . . | 9,485,800 | 93 | 679,400 | 63 | 657,500 | 61 | 2,735,600 | 77 | 1,289,700 | 76 | 137,334,600 | 98 |
| MAY . . . | 9,522,100 | 93 | 668,900 | 62 | 784,300 | 73 | 2,816,100 | 79 | 1,335,300 | 79 | 138,191,700 | 99 |
| JUNE . . . | 9,911,300 | 97 | 701,100 | 65 | 943,100 | 87 | 3,032,800 | 85 | 1,597,900 | 94 | 146,470,600 | 105 |
| JULY . . . | 10,448,700 | 102 | 774,000 | 71 | 1,129,900 | 105 | 3,222,200 | 91 | 1,783,700 | 105 | 155,728,000 | 112 |
| AUGUST . . . | 10,085,100 | 99 | 689,200 | 64 | 1,051,200 | 98 | 3,115,000 | 88 | 1,810,800 | 106 | 151,605,300 | 109 |
| SEPTEMBER . . | 10,227,600 | 100 | 639,600 | 59 | 961,700 | 89 | 3,471,200 | 98 | 1,665,000 | 98 | 152,532,300 | 109 |
| OCTOBER . . | 10,020,700 | 98 | 594,100 | 55 | 780,100 | 72 | 3,496,500 | 98 | 1,323,200 | 77 | 143,868,000 | 103 |
| NOVEMBER . . | 9,508,000 | 93 | 582,600 | 54 | 746,600 | 69 | 3,118,300 | 88 | 1,229,800 | 72 | 140,446,800 | 101 |
| DECEMBER . . | 9,657,700 | 94 | 575,400 | 53 | 708,500 | 66 | 3,178,500 | 89 | 1,242,000 | 73 | 147,399,500 | 105 |
| For the Year . | 9,913,000 | 97 | 657,600 | 61 | 822,100 | 76 | 3,003,500 | 84 | 1,401,900 | 82 | 145,303,000 | 104 |

TABLE NO. 9. — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1942*

| *City or Town* | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 40,670 | | 27,800 | | 772,340 | | 40,680 | | 47,040 | | 13,970 | | 58,800 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 2,114,200 | 52 | 1,560,600 | 57 | 106,391,900 | 138 | 3,698,800 | 91 | 6,441,400 | 137 | 599,000 | 43 | 4,370,500 | 75 |
| FEBRUARY | 2,134,900 | 53 | 1,545,700 | 56 | 103,285,600 | 134 | 4,102,000 | 101 | 6,301,500 | 134 | 587,600 | 42 | 4,161,000 | 71 |
| MARCH | 2,149,200 | 53 | 1,549,100 | 56 | 95,769,700 | 124 | 4,022,500 | 99 | 6,392,100 | 136 | 598,600 | 43 | 4,166,200 | 71 |
| APRIL | 2,167,400 | 53 | 1,532,800 | 55 | 95,693,000 | 124 | 3,620,900 | 89 | 6,087,500 | 129 | 657,600 | 47 | 4,105,200 | 70 |
| MAY | 2,375,500 | 58 | 1,647,700 | 59 | 98,183,700 | 127 | 3,565,500 | 88 | 5,810,500 | 124 | 708,200 | 51 | 4,151,200 | 71 |
| JUNE | 2,485,900 | 61 | 1,679,000 | 60 | 104,260,700 | 135 | 3,496,000 | 86 | 6,109,700 | 130 | 761,800 | 55 | 4,387,000 | 75 |
| JULY | 2,573,000 | 63 | 1,711,500 | 62 | 106,890,200 | 138 | 3,661,800 | 90 | 6,360,100 | 135 | 844,400 | 60 | 4,399,500 | 75 |
| AUGUST | 2,439,600 | 60 | 1,617,300 | 58 | 107,997,800 | 140 | 3,971,100 | 98 | 6,512,500 | 138 | 802,600 | 57 | 4,505,000 | 77 |
| SEPTEMBER | 2,344,600 | 58 | 1,662,700 | 60 | 104,315,900 | 135 | 3,985,800 | 98 | 6,358,100 | 135 | 788,800 | 56 | 4,557,900 | 77 |
| OCTOBER | 2,095,100 | 51 | 1,553,000 | 56 | 99,286,400 | 129 | 3,889,700 | 96 | 6,414,200 | 136 | 718,700 | 51 | 4,289,600 | 73 |
| NOVEMBER | 1,942,800 | 48 | 1,513,600 | 54 | 98,070,300 | 127 | 3,733,000 | 92 | 6,640,300 | 141 | 670,400 | 48 | 4,132,200 | 70 |
| DECEMBER | 1,977,800 | 48 | 1,389,700 | 50 | 104,980,300 | 136 | 4,237,900 | 104 | 6,479,300 | 138 | 649,000 | 46 | 4,073,500 | 69 |
| For the Year | 2,234,100 | 55 | 1,580,300 | 57 | 102,100,500 | 132 | 3,831,200 | 94 | 6,326,100 | 134 | 699,600 | 50 | 4,275,600 | 73 |

TABLE No. 9. — Continued — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 63,900 | | 25,630 | | 19,140 | | 1,860 | | 76,550 | | 34,620 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 3,744,000 | 59 | 1,402,900 | 55 | 975,200 | 51 | 175,500 | 94 | 5,345,300 | 70 | 1,950,100 | 56 |
| FEBRUARY | 3,719,300 | 58 | 1,414,400 | 55 | 972,100 | 51 | 174,400 | 94 | 5,277,000 | 69 | 1,889,200 | 55 |
| MARCH | 3,615,400 | 57 | 1,372,500 | 54 | 951,100 | 50 | 164,200 | 88 | 5,052,300 | 66 | 1,947,000 | 56 |
| APRIL | 3,621,000 | 57 | 1,401,400 | 55 | 1,004,600 | 53 | 163,400 | 88 | 5,047,300 | 66 | 1,951,200 | 56 |
| MAY | 3,705,100 | 58 | 1,473,100 | 58 | 1,078,800 | 56 | 220,700 | 119 | 5,328,500 | 70 | 2,147,900 | 62 |
| JUNE | 3,755,700 | 59 | 1,641,400 | 64 | 1,101,800 | 58 | 278,900 | 150 | 5,701,100 | 75 | 2,413,600 | 70 |
| JULY | 3,823,500 | 60 | 1,614,000 | 63 | 1,037,200 | 54 | 327,900 | 176 | 5,828,800 | 76 | 2,683,100 | 78 |
| AUGUST | 3,840,300 | 60 | 1,585,400 | 62 | 1,000,400 | 52 | 366,500 | 197 | 5,915,700 | 77 | 2,593,600 | 75 |
| SEPTEMBER | 3,771,600 | 59 | 1,656,300 | 65 | 1,045,300 | 55 | 296,300 | 159 | 6,000,000 | 78 | 2,417,100 | 70 |
| OCTOBER | 3,755,700 | 59 | 1,596,300 | 62 | 1,018,000 | 53 | 202,600 | 109 | 5,785,300 | 76 | 2,193,300 | 63 |
| NOVEMBER | 3,570,800 | 56 | 1,488,100 | 58 | 1,009,200 | 53 | 172,500 | 92 | 5,812,000 | 76 | 2,125,900 | 61 |
| DECEMBER | 3,565,500 | 56 | 1,382,600 | 54 | 1,005,200 | 52 | 189,800 | 101 | 6,132,900 | 80 | 2,241,200 | 65 |
| For the Year | 3,707,500 | 58 | 1,502,600 | 59 | 1,016,700 | 53 | 228,200 | 123 | 5,604,400 | 73 | 2,215,300 | 64 |

TABLE No. 9. — Concluded — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 102,480 | | 10,870 | | 10,790 | | 35,660 | | 17.260 | | 1,400,060 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 9,821,000 | 96 | 593,200 | 55 | 716,300 | 66 | 3,234,900 | 91 | 1,273,500 | 74 | 154,408,300 | 110 |
| FEBRUARY | 9,617,900 | 94 | 580,600 | 54 | 680,900 | 63 | 3,163,200 | 89 | 1,260,000 | 73 | 150,867,300 | 108 |
| MARCH | 9,096,300 | 89 | 593,000 | 55 | 654,200 | 61 | 2,829,900 | 79 | 1,253,200 | 73 | 142,176,500 | 102 |
| APRIL | 9,120,000 | 89 | 570,800 | 53 | 685,900 | 64 | 2,784,400 | 78 | 1,276,000 | 74 | 141,490,400 | 101 |
| MAY | 9,138,800 | 89 | 574,500 | 53 | 846,200 | 78 | 3,135,900 | 88 | 1,384,000 | 80 | 145,475,800 | 104 |
| JUNE | 9,983,600 | 97 | 642,300 | 59 | 924,200 | 86 | 3,587,800 | 101 | 1,443,900 | 84 | 154,654,400 | 110 |
| JULY | 10,347,000 | 101 | 648,600 | 60 | 1,043,300 | 97 | 3,589,600 | 101 | 1,554,500 | 90 | 158,938,000 | 114 |
| AUGUST | 10,250,100 | 100 | 652,200 | 60 | 1,013,200 | 94 | 3,362,900 | 94 | 1,585,700 | 92 | 160,011,900 | 114 |
| SEPTEMBER | 10,183,300 | 99 | 662,200 | 61 | 927,800 | 86 | 3,566,600 | 100 | 1,382,600 | 80 | 155,922,900 | 111 |
| OCTOBER | 9,845,000 | 96 | 666,100 | 61 | 876,900 | 81 | 3,275,100 | 92 | 1,349,500 | 78 | 148,810,500 | 106 |
| NOVEMBER | 9,722,100 | 95 | 719,400 | 66 | 865,000 | 80 | 3,244,900 | 91 | 1,276,500 | 74 | 146,709,000 | 105 |
| DECEMBER | 9,925,800 | 97 | 645,900 | 59 | 795,800 | 74 | 3,452,800 | 97 | 1,292,600 | 74 | 154,417,600 | 110 |
| For the Year | 9,755,400 | 95 | 629,300 | 58 | 836,900 | 78 | 3,269,600 | 92 | 1,362,000 | 79 | 151,175,300 | 108 |

TABLE No. 9. — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1943*

| *City or Town* . | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . | 40,940 | | 28,200 | | 773,220 | | 40,460 | | 47,200 | | 14,310 | | 59,200 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . | 2,048,900 | 50 | 1,396,700 | 50 | 110,309,700 | 143 | 4,125,400 | 102 | 6,869,200 | 146 | 672,600 | 48 | 4,176,100 | 71 |
| FEBRUARY . | 2,126,100 | 52 | 1,348,600 | 49 | 108,981,700 | 141 | 4,106,800 | 101 | 7,397,700 | 157 | 696,000 | 49 | 4,149,600 | 70 |
| MARCH . . | 2,162,300 | 53 | 1,349,900 | 48 | 102,187,100 | 132 | 3,783,000 | 93 | 7,054,100 | 150 | 669,600 | 47 | 4,249,400 | 72 |
| APRIL . . | 2,086,400 | 51 | 1,294,200 | 46 | 98,167,600 | 127 | 3,487,600 | 86 | 6,709,500 | 142 | 691,200 | 49 | 4,151,500 | 70 |
| MAY . . | 2,156,900 | 53 | 1,359,000 | 48 | 98,786,000 | 128 | 3,437,000 | 85 | 6,754,600 | 143 | 734,700 | 52 | 4,331,900 | 73 |
| JUNE . . | 2,792,100 | 68 | 1,789,400 | 64 | 108,571,400 | 140 | 3,739,900 | 92 | 7,345,100 | 156 | 967,100 | 68 | 4,799,000 | 81 |
| JULY . . | 3,069,900 | 75 | 1,977,000 | 70 | 112,972,200 | 146 | 3,926,700 | 97 | 7,390,000 | 157 | 1,100,600 | 77 | 4,859,800 | 82 |
| AUGUST . . | 2,566,300 | 63 | 1,667,000 | 59 | 111,688,000 | 144 | 3,957,100 | 98 | 7,195,600 | 152 | 1,008,400 | 70 | 4,575,300 | 77 |
| SEPTEMBER . | 2,531,400 | 62 | 1,706,900 | 60 | 104,694,400 | 135 | 3,900,600 | 97 | 7,032,900 | 149 | 1,025,700 | 71 | 4,644,200 | 78 |
| OCTOBER . | 2,216,300 | 54 | 1,407,900 | 50 | 101,382,800 | 131 | 3,763,000 | 93 | 7,260,400 | 154 | 805,600 | 56 | 4,393,000 | 74 |
| NOVEMBER . | 2,129,300 | 52 | 1,347,700 | 48 | 101,094,900 | 131 | 3,745,400 | 93 | 7,053,100 | 149 | 749,300 | 52 | 4,334,800 | 73 |
| DECEMBER . | 2,120,500 | 52 | 1,340,900 | 47 | 113,627,400 | 147 | 4,419,000 | 109 | 7,084,500 | 150 | 734,800 | 51 | 4,329,500 | 73 |
| For the Year | 2,335,000 | 57 | 1,499,600 | 53 | 106,046,300 | 137 | 3,865,600 | 96 | 7,093,700 | 150 | 821,900 | 57 | 4,417,600 | 75 |

TABLE No. 9. — Continued — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 64,270 | | 25,750 | | 19,320 | | 1,880 | | 76,860 | | 34,750 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 3,715,600 | 58 | 1,716,100 | 67 | 1,082,600 | 56 | 203,300 | 109 | 6,412,500 | 84 | 2,309,100 | 67 |
| FEBRUARY | 3,713,500 | 58 | 1,456,100 | 57 | 1,069,200 | 56 | 227,200 | 121 | 6.292,800 | 82 | 2,313,200 | 67 |
| MARCH | 3,669,200 | 57 | 1,444,700 | 56 | 1,072,800 | 56 | 244,700 | 131 | 5,671,400 | 74 | 2,257,600 | 65 |
| APRIL | 3,588,100 | 56 | 1,432,800 | 56 | 1,018,200 | 53 | 282,900 | 150 | 5,243,100 | 68 | 2,210,100 | 64 |
| MAY | 3,570,400 | 56 | 1,459,600 | 57 | 1,076,500 | 56 | 251,500 | 134 | 5,338,800 | 70 | 2,170,400 | 62 |
| JUNE | 4,067,200 | 63 | 1,706,700 | 66 | 1,337,000 | 69 | 307,700 | 164 | 6,085,700 | 79 | 2,697,800 | 78 |
| JULY | 4,357,600 | 68 | 1,796,100 | 70 | 1,309,500 | 68 | 344,100 | 183 | 6,281,200 | 82 | 3,095,600 | 89 |
| AUGUST | 4,108,000 | 64 | 1,522,000 | 59 | 1,184,800 | 61 | 318,200 | 169 | 6,029,400 | 78 | 2,757,200 | 79 |
| SEPTEMBER | 3,853,800 | 60 | 1,507,500 | 58 | 1,120,900 | 58 | 255,800 | 136 | 5,838,800 | 76 | 2,534,700 | 73 |
| OCTOBER | 3,583,900 | 56 | 1,461,900 | 57 | 1,025,700 | 53 | 195,400 | 104 | 6,272,300 | 82 | 2,312,900 | 67 |
| NOVEMBER | 3,583,000 | 56 | 1,343,100 | 52 | 971,600 | 50 | 157,600 | 84 | 6,035,400 | 78 | 2,105,500 | 61 |
| DECEMBER | 3,950,100 | 61 | 1,377,900 | 53 | 977,900 | 50 | 166,100 | 88 | 6,431,100 | 84 | 2,309,200 | 66 |
| For the Year | 3,814,600 | 59 | 1,519,400 | 59 | 1,104,100 | 57 | 246,300 | 131 | 5,994,000 | 78 | 2,424,100 | 70 |

TABLE No. 9. — Concluded — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 102,650 | | 10,920 | | 10,790 | | 35,780 | | 17,510 | | 1,404,010 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 10,233,200 | 100 | 659,100 | 60 | 812,000 | 75 | 3,536,300 | 99 | 1,324,800 | 76 | 161,603,200 | 115 |
| FEBRUARY | 10,126,600 | 99 | 706,100 | 65 | 828,900 | 77 | 3,763,100 | 105 | 1,327,600 | 76 | 160,630,800 | 115 |
| MARCH | 10,016,900 | 98 | 713,800 | 65 | 838,700 | 78 | 3,783,500 | 106 | 1,311,800 | 75 | 152,480,500 | 109 |
| APRIL | 9,659,700 | 94 | 670,400 | 61 | 876,300 | 81 | 3,729,700 | 104 | 1,309,100 | 75 | 146,608,400 | 104 |
| MAY | 9,757,300 | 95 | 619,900 | 57 | 841,200 | 78 | 3,162,700 | 88 | 1,378,700 | 79 | 147,187,100 | 105 |
| JUNE | 10,641,400 | 104 | 688,100 | 63 | 1,060,700 | 98 | 3,368,100 | 94 | 1,567,700 | 90 | 163,532,100 | 117 |
| JULY | 11,497,100 | 112 | 713,600 | 65 | 1,219,300 | 113 | 3,431,500 | 96 | 1,895,500 | 108 | 171,237,300 | 122 |
| AUGUST | 10,759,200 | 105 | 638,200 | 58 | 1,040,600 | 96 | 3,068,800 | 86 | 1,792,800 | 102 | 165,876,900 | 118 |
| SEPTEMBER | 10,590,900 | 103 | 653,800 | 60 | 900,200 | 83 | 2,969,600 | 83 | 1,597,000 | 91 | 157,359,100 | 112 |
| OCTOBER | 10,193,600 | 99 | 607,300 | 56 | 767,800 | 71 | 2,823,600 | 79 | 1,458,700 | 83 | 151,932,100 | 108 |
| NOVEMBER | 10,598,700 | 103 | 584,900 | 54 | 751,300 | 70 | 2,714,500 | 76 | 1,354,100 | 77 | 150,654,200 | 107 |
| DECEMBER | 10,816,300 | 105 | 588,400 | 54 | 764,800 | 71 | 2,959,600 | 83 | 1,244,000 | 71 | 165,242,000 | 118 |
| For the Year | 10,410,300 | 101 | 653,300 | 60 | 892,300 | 83 | 3,272,800 | 91 | 1,464,700 | 84 | 157,875,600 | 112 |

TABLE No. 9. — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1944*

| *City or Town* . | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . | 41,220 | | 28,600 | | 774,110 | | 40,230 | | 47,350 | | 14,660 | | 59,600 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . | 2,221,700 | 54 | 1,410,200 | 50 | 115,227,300 | 149 | 4,457,100 | 110 | 6,732,900 | 142 | 718,900 | 50 | 4,341,500 | 73 |
| FEBRUARY . | 2,059,400 | 50 | 1,395,400 | 49 | 110,897,800 | 143 | 4,229,700 | 105 | 6,877,700 | 145 | 653,800 | 45 | 4,314,400 | 73 |
| MARCH . . | 2,037,400 | 50 | 1,333,300 | 47 | 105,746,500 | 137 | 3,803,200 | 94 | 6,852,500 | 145 | 651,000 | 45 | 4,274,100 | 72 |
| APRIL . . | 2,075,600 | 50 | 1,361,500 | 48 | 101,281,400 | 131 | 3,644,700 | 90 | 6,949,000 | 147 | 691,500 | 47 | 4,191,300 | 70 |
| MAY . . | 2,651,600 | 64 | 1,840,600 | 65 | 106,559,100 | 138 | 3,728,400 | 93 | 6,707,200 | 142 | 986,600 | 68 | 4,453,600 | 75 |
| JUNE . . | 2,715,100 | 66 | 1,955,600 | 68 | 109,848,100 | 142 | 3,856,500 | 96 | 7,026,500 | 148 | 1,041,500 | 71 | 4,537,500 | 76 |
| JULY . . | 2,854,400 | 69 | 2,043,100 | 71 | 111,678,300 | 144 | 3,905,400 | 97 | 7.061,200 | 149 | 1,140,500 | 78 | 4,675,500 | 78 |
| AUGUST . . | 3,203,500 | 78 | 2,477,400 | 87 | 117,193,100 | 151 | 4,219,500 | 105 | 7,522,900 | 159 | 1,258,400 | 86 | 5,004,000 | 84 |
| SEPTEMBER . | 2,623,400 | 64 | 1,880,300 | 66 | 108,869,300 | 141 | 4,198,000 | 104 | 7,102,000 | 150 | 855,600 | 58 | 4,699,800 | 79 |
| OCTOBER . | 2,553,200 | 62 | 1,696,400 | 59 | 105,924,200 | 137 | 4,190,200 | 104 | 7,068,300 | 149 | 742,600 | 50 | 4,709,700 | 79 |
| NOVEMBER . | 2,625,300 | 64 | 1,586,000 | 55 | 106,482,100 | 138 | 4,311,400 | 107 | 7,022,900 | 148 | 694,200 | 47 | 4,606,100 | 77 |
| DECEMBER . | 2,853,800 | 69 | 1,630,900 | 57 | 115,459,500 | 149 | 4,490,500 | 112 | 7,076,600 | 149 | 732,700 | 50 | 4,456,600 | 75 |
| For the Year | 2,542,500 | 62 | 1,719,500 | 60 | 109,622,600 | 142 | 4,086,300 | 102 | 7,000,400 | 148 | 848,600 | 58 | 4,523,300 | 76 |

TABLE No. 9. — Continued — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* . . | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . . | 64,630 | | 25,870 | | 19,510 | | 1,890 | | 77,180 | | 34,870 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . . . | 4,102,000 | 64 | 1,348,700 | 52 | 1,033,000 | 53 | 173,700 | 92 | 6,227,700 | 81 | 2,259,900 | 65 |
| FEBRUARY . . | 4,199,200 | 65 | 1,331,100 | 52 | 994,100 | 51 | 201,200 | 107 | 5,934,000 | 77 | 2,185,100 | 63 |
| MARCH . . . | 3,686,300 | 57 | 1,313,100 | 51 | 996,000 | 51 | 186,200 | 99 | 5,662,100 | 73 | 2,141,600 | 61 |
| APRIL . . . | 3,710,300 | 57 | 1,324,800 | 51 | 1,017,800 | 52 | 184,200 | 97 | 5,498,600 | 71 | 2,138,600 | 61 |
| MAY . . . | 4,243,300 | 66 | 1,588,600 | 61 | 1,269,800 | 65 | 252,300 | 133 | 6,274,500 | 81 | 2,497,100 | 72 |
| JUNE . . . | 5,031,500 | 78 | 1,541,800 | 60 | 1,336,700 | 69 | 307,300 | 163 | 6,160,800 | 80 | 2,683,100 | 77 |
| JULY . . . | 5,710,200 | 88 | 1,572,400 | 61 | 1,114,200 | 57 | 368,200 | 195 | 6,284,900 | 81 | 3,008,700 | 86 |
| AUGUST . . . | 5,759,900 | 89 | 1,738,500 | 67 | 1,246,200 | 64 | 381,400 | 202 | 6,755,900 | 88 | 3,101,400 | 89 |
| SEPTEMBER . . | 3,925,800 | 61 | 1,623,700 | 63 | 1,041,000 | 53 | 275,800 | 146 | 5,879,500 | 76 | 2,320,900 | 67 |
| OCTOBER . . . | 3,694,600 | 57 | 1,703,300 | 66 | 949,900 | 49 | 229,500 | 121 | 5,691,400 | 74 | 2,250,800 | 64 |
| NOVEMBER . . | 3,837,800 | 59 | 1,636,400 | 63 | 922,000 | 47 | 214,200 | 113 | 5,541,400 | 72 | 2,153,400 | 62 |
| DECEMBER . . | 4,052,300 | 63 | 1,566,300 | 60 | 932,400 | 48 | 223,100 | 118 | 5,710,600 | 74 | 2,579,500 | 74 |
| For the Year . | 4,332,400 | 67 | 1,525,000 | 59 | 1,071,400 | 55 | 250,100 | 132 | 5,970,800 | 77 | 2,446,100 | 70 |

TABLE No. 9. — Concluded — (*Meter Basis*). *Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 102,830 | | 10,960 | | 10,800 | | 35,890 | | 17,750 | | 1,407,950 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 10,741,500 | 105 | 627,100 | 57 | 765,000 | 71 | 2,816,600 | 79 | 1,205,700 | 68 | 166,410,500 | 118 |
| FEBRUARY | 10,587,900 | 103 | 642,100 | 59 | 770,100 | 71 | 2,571,500 | 72 | 1,225,700 | 69 | 161,070,200 | 115 |
| MARCH | 10,527,800 | 102 | 668,700 | 61 | 775,300 | 72 | 2,492,200 | 70 | 1,186,100 | 67 | 154,333,400 | 110 |
| APRIL | 10,226,100 | 99 | 631,500 | 58 | 802,700 | 74 | 2,419,000 | 67 | 1,237,600 | 70 | 149,386,200 | 106 |
| MAY | 10,654,200 | 104 | 661,700 | 60 | 957,000 | 89 | 2,863,800 | 80 | 1,365,400 | 77 | 159,554,800 | 113 |
| JUNE | 10,805,500 | 105 | 703,400 | 64 | 1,076,500 | 100 | 2,866,300 | 80 | 1,526,900 | 86 | 165,020,600 | 117 |
| JULY | 11,398,000 | 111 | 779,800 | 71 | 1,144,500 | 106 | 2,844,900 | 79 | 1,692,300 | 95 | 169,276,500 | 120 |
| AUGUST | 11,887,200 | 116 | 864,800 | 79 | 1,213,300 | 112 | 2,956,200 | 82 | 1,836,300 | 103 | 178,619,900 | 127 |
| SEPTEMBER | 10,887,100 | 106 | 890,000 | 81 | 940,900 | 87 | 2,685,400 | 75 | 1,565,600 | 88 | 162,264,100 | 115 |
| OCTOBER | 10,626,400 | 103 | 879,500 | 80 | 776,600 | 72 | 2,748,500 | 77 | 1,466,300 | 82 | 157,901,400 | 112 |
| NOVEMBER | 10,237,100 | 100 | 832,900 | 76 | 731,900 | 68 | 2,628,600 | 73 | 1,256,000 | 70 | 157,319,700 | 112 |
| DECEMBER | 10,316,500 | 100 | 807,200 | 74 | 756,000 | 70 | 2,713,500 | 76 | 1,275,500 | 71 | 167,633,500 | 119 |
| For the Year | 10,744,300 | 104 | 749,500 | 68 | 893,200 | 83 | 2,718,700 | 76 | 1,404,400 | 79 | 162,449,100 | 115 |

TABLE No. 9. — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1945*

| *City or Town* | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 43,520 | | 28,870 | | 766,390 | | 39,940 | | 48,550 | | 14,450 | | 59,570 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 2,342,500 | 54 | 1,657,900 | 57 | 123,674,400 | 161 | 4,724,600 | 118 | 7,261,800 | 150 | 851,100 | 59 | 4,506,200 | 76 |
| FEBRUARY | 2,376,300 | 55 | 1,678,200 | 58 | 120,612,100 | 157 | 4,676,000 | 117 | 7,192,400 | 148 | 864,800 | 60 | 4,467,400 | 75 |
| MARCH | 2,288,200 | 53 | 1,674,300 | 58 | 107,441,400 | 140 | 4,377,800 | 110 | 7,087,400 | 146 | 781,100 | 54 | 4,557,700 | 77 |
| APRIL | 2,281,700 | 52 | 1,605,500 | 56 | 101,044,000 | 132 | 4,179,900 | 105 | 6,874,100 | 142 | 743,300 | 51 | 4,584,800 | 77 |
| MAY | 2,304,500 | 53 | 1,590,000 | 55 | 102,715,700 | 134 | 4,248,200 | 106 | 6,916,600 | 142 | 814,500 | 56 | 4,586,200 | 77 |
| JUNE | 2,394,800 | 55 | 1,741,800 | 60 | 106,576,000 | 139 | 4,093,500 | 102 | 6,901,400 | 142 | 808,300 | 56 | 4,667,200 | 78 |
| JULY | 2,490,300 | 57 | 1,708,500 | 59 | 112,311,900 | 147 | 4,167,900 | 104 | 7,233,400 | 149 | 792,100 | 55 | 4,703,300 | 79 |
| AUGUST | 2,791,100 | 64 | 2,030,400 | 70 | 111,609,900 | 146 | 4,281,400 | 107 | 7,250,300 | 149 | 930,800 | 64 | 4,771,800 | 80 |
| SEPTEMBER | 2,570,600 | 59 | 2,076,500 | 72 | 112,143,200 | 146 | 4,275,100 | 107 | 7,057,700 | 145 | 832,200 | 58 | 4,854,400 | 81 |
| OCTOBER | 2,453,900 | 56 | 1,887,500 | 65 | 107,844,100 | 141 | 4,115,600 | 103 | 7,318,500 | 151 | 742,700 | 51 | 4,986,500 | 84 |
| NOVEMBER | 2,475,400 | 57 | 1,709,100 | 59 | 106,803,200 | 139 | 3,945,100 | 99 | 7,151,300 | 147 | 757,700 | 52 | 4,895,200 | 82 |
| DECEMBER | 2,581,600 | 59 | 1,803,500 | 62 | 115,779,800 | 151 | 4,241,700 | 106 | 7,309,600 | 151 | 791,000 | 55 | 4,829,500 | 81 |
| For the Year | 2,446,600 | 56 | 1,764,100 | 61 | 110,676,200 | 144 | 4,275,700 | 107 | 7,130,500 | 147 | 808,900 | 56 | 4,702,200 | 79 |

[1] Actual averages of Total District Consumption.

TABLE No. 9. — Continued — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* . . | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . . | 67,070 | | 27,970 | | 21,720 | | 2,400 | | 82,080 | | 35,690 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . . . | 4,147,300 | 62 | 1,506,700 | 54 | 947,500 | 44 | 211,700 | 88 | 6,095,500 | 74 | 2,759,500 | 77 |
| FEBRUARY . . | 4,528,400 | 68 | 1,651,800 | 59 | 954,800 | 44 | 227,600 | 95 | 5,976,800 | 73 | 2,781,200 | 78 |
| MARCH . . . | 3,993,000 | 60 | 1,572,300 | 56 | 959,800 | 44 | 242,700 | 101 | 5,791,400 | 71 | 2,413,300 | 68 |
| APRIL . . . | 3,925,700 | 59 | 1,430,000 | 51 | 948,500 | 44 | 208,200 | 87 | 5,741,100 | 70 | 2,198,700 | 62 |
| MAY . . . | 3,819,500 | 57 | 1,425,900 | 51 | 1,037,200 | 48 | 206,800 | 86 | 5,674,600 | 69 | 2,168,500 | 61 |
| JUNE . . . | 3,873,000 | 58 | 1,534,200 | 55 | 1,031,000 | 47 | 254,600 | 106 | 5,748,200 | 70 | 2,387,600 | 67 |
| JULY . . . | 3,833,700 | 57 | 1,458,300 | 52 | 966,800 | 45 | 335,700 | 140 | 6,004,100 | 73 | 2,850,700 | 80 |
| AUGUST . . . | 3,982,700 | 59 | 1,523,000 | 54 | 951,900 | 44 | 335,600 | 140 | 6,313,800 | 77 | 3,038,200 | 85 |
| SEPTEMBER . . | 4,214,500 | 63 | 1,562,100 | 56 | 999,400 | 46 | 242,600 | 101 | 6,352,600 | 77 | 2,778,500 | 78 |
| OCTOBER . . . | 4,098,900 | 61 | 1,510,200 | 54 | 996,600 | 46 | 178,000 | 74 | 6,517,200 | 79 | 2,483,500 | 70 |
| NOVEMBER . . | 4,132,100 | 62 | 1,529,700 | 55 | 1,001,100 | 46 | 166,500 | 69 | 5,958,500 | 73 | 2,479,700 | 69 |
| DECEMBER . . | 4,378,300 | 65 | 1,578,100 | 56 | 1,014,600 | 47 | 194,700 | 81 | 6,334,700 | 77 | 2,690,600 | 75 |
| For the Year . | 4,074,000 | 61 | 1,522,600 | 54 | 984,200 | 45 | 234,000 | 98 | 6,043,900 | 74 | 2,585,600 | 72 |

[1] Actual averages of Total District Consumption

TABLE No. 9. — Continued — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* . . | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . . | 105,880 | | 12,030 | | 11,840 | | 37,440 | | 18,700 | | 1,424,110 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . . | 10,811,500 | 102 | 849,900 | 71 | 802,900 | 68 | 2,809,400 | 75 | 1,177,400 | 63 | 177,137,800 | 124 |
| FEBRUARY . . | 10,650,800 | 101 | 863,900 | 72 | 837,800 | 71 | 2,649,300 | 71 | 1,152,900 | 62 | 174,142,400 | 122 |
| MARCH . . . | 10,786,200 | 102 | 733,300 | 61 | 759,200 | 64 | 2,873,600 | 77 | 1,273,200 | 68 | 159,606,000 | 112 |
| APRIL . . . | 10,066,500 | 95 | 635,400 | 53 | 756,800 | 64 | 2,625,500 | 70 | 1,241,100 | 66 | 151,091,100 | 106 |
| MAY . . . | 10,300,600 | 97 | 637,100 | 53 | 754,200 | 64 | 2,426,500 | 65 | 1,292,200 | 69 | 152,919,000 | 107 |
| JUNE . . . | 10,788,600 | 102 | 650,300 | 54 | 825,400 | 70 | 2,586,600 | 69 | 1,506,500 | 81 | 158,368,900 | 111 |
| JULY . . . | 11,590,500 | 109 | 613,100 | 51 | 1,012,700 | 86 | 2,455,000 | 66 | 1,586,400 | 85 | 166,114,400 | 117 |
| AUGUST . . . | 11,549,300 | 109 | 573,100 | 48 | 1,190,500 | 101 | 2,412,600 | 64 | 1,649,000 | 88 | 167,185,300 | 117 |
| SEPTEMBER . . | 11,171,600 | 106 | 582,800 | 48 | 948,400 | 80 | 2,358,500 | 63 | 1,476,700 | 79 | 166,497,500 | 117 |
| OCTOBER . . | 10,909,600 | 103 | 545,900 | 45 | 828,700 | 70 | 2,355,200 | 63 | 1,386,500 | 74 | 161,159,100 | 113 |
| NOVEMBER . . | 10,954,700 | 103 | 533,800 | 44 | 769,200 | 65 | 2,334,500 | 62 | 1,444,000 | 77 | 159,041,100 | 112 |
| DECEMBER . . | 11,212,800 | 106 | 518,300 | 43 | 816,600 | 69 | 2,400,300 | 64 | 1,529,700 | 82 | 170,005,400 | 119 |
| For the Year . | 10,903,100 | 103 | 643,400 | 53 | 859,100 | 73 | 2,523,400 | 67 | 1,394,700 | 75 | 163,572,300 | 115 |

[1] Actual averages of Total District Consumption.

TABLE No. 9. — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns Supplied by the Metropolitan Water Works in 1946*

| *City or Town* . | ARLINGTON | | BELMONT | | BOSTON | | CHELSEA | | EVERETT | | LEXINGTON | | MALDEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . | 44,220 | | 29,300 | | 766,910 | | 39,550 | | 48,840 | | 14,760 | | 59,660 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . | 2,800,600 | 63 | 1,870,200 | 64 | 121,121,500 | 158 | 4,542,400 | 115 | 7,371,900 | 151 | 783,900 | 53 | 4,930,300 | 83 |
| FEBRUARY . | 2,988,100 | 68 | 1,827,000 | 62 | 119,442,000 | 156 | 4,570,900 | 116 | 7,398,400 | 151 | 752,400 | 51 | 4,749,300 | 80 |
| MARCH . . | 2,946,800 | 67 | 1,872,800 | 64 | 109,162,300 | 142 | 4,572,300 | 116 | 6,761,000 | 138 | 776,000 | 53 | 4,817,800 | 81 |
| APRIL . . | 2,821,300 | 64 | 1,872,400 | 64 | 103,428,900 | 135 | 4,124,400 | 104 | 6,685,600 | 137 | 773,000 | 52 | 4,826,300 | 81 |
| MAY . . | 2,812,000 | 64 | 1,911,500 | 65 | 103,671,100 | 135 | 4,224,100 | 107 | 6,983,300 | 143 | 820,300 | 56 | 4,808,000 | 81 |
| JUNE . . | 2,988,600 | 68 | 2,207,000 | 75 | 108,912,200 | 142 | 4,182,900 | 106 | 6,998,500 | 143 | 1,008,500 | 68 | 4,957,700 | 83 |
| JULY . . | 3,631,500 | 82 | 2,842,900 | 97 | 116,005,800 | 151 | 4,171,100 | 105 | 6,626,700 | 136 | 1,388,700 | 94 | 5,129,500 | 86 |
| AUGUST . . | 2,157,400 | 49 | 1,715,400 | 59 | 112,368,400 | 147 | 4,183,200 | 106 | 6,051,300 | 124 | 804,000 | 54 | 4,728,800 | 79 |
| SEPTEMBER . | 2,390,800 | 54 | 1,873,200 | 64 | 110,549,000 | 144 | 4,365,300 | 110 | 6,243,600 | 128 | 883,400 | 60 | 4,919,200 | 82 |
| OCTOBER . | 2,334,600 | 53 | 2,019,200 | 69 | 107,798,400 | 141 | 4,450,400 | 113 | 6,728,500 | 138 | 867,400 | 59 | 4,770,000 | 80 |
| NOVEMBER . | 2,355,200 | 53 | 2,143,000 | 73 | 104,929,600 | 137 | 4,314,600 | 109 | 7,451,800 | 153 | 852,600 | 58 | 4,697,100 | 79 |
| DECEMBER . | 2,315,800 | 52 | 2,017,800 | 69 | 114,326,200 | 149 | 4,345,900 | 110 | 7,722,900 | 158 | 832,200 | 56 | 4,623,500 | 77 |
| For the Year | 2,710,400 | 61 | 2,015,800 | 69 | 110,950,800 | 145 | 4,336,300 | 110 | 6,915,500 | 142 | 879,600 | 60 | 4,830,200 | 81 |

[1] Actual averages of Total District Consumption.

TABLE No. 9. — Continued — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* | MEDFORD | | MELROSE | | MILTON | | NAHANT | | QUINCY | | REVERE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* | 67,660 | | 28,380 | | 21,980 | | 2,420 | | 82,860 | | 35,950 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY | 4,570,200 | 68 | 1,625,500 | 57 | 1,143,200 | 52 | 193,200 | 80 | 6,635,000 | 80 | 2,645,500 | 74 |
| FEBRUARY | 4,412,900 | 65 | 1,604,700 | 57 | 1,063,700 | 48 | 185,300 | 77 | 6,948,600 | 84 | 2,554,400 | 71 |
| MARCH | 4,416,100 | 65 | 1,647,700 | 58 | 960,300 | 44 | 188,800 | 78 | 6,519,800 | 79 | 2,534,000 | 70 |
| APRIL | 4,325,400 | 64 | 1,588,800 | 56 | 1,008,600 | 46 | 203,100 | 84 | 6,231,400 | 75 | 2,251,900 | 63 |
| May | 4,524,700 | 67 | 1,626,700 | 57 | 1,078,600 | 49 | 226,900 | 94 | 6,301,100 | 76 | 2,396,700 | 67 |
| JUNE | 4,640,600 | 69 | 1,660,300 | 59 | 1,166,000 | 53 | 314,600 | 130 | 6,669,000 | 80 | 2,961,600 | 82 |
| JULY | 4,668,200 | 69 | 2,010,600 | 71 | 1,334,300 | 61 | 397,000 | 164 | 7,376,400 | 89 | 3,507,400 | 98 |
| AUGUST | 4,256,100 | 63 | 1,610,100 | 57 | 1,085,100 | 49 | 343,900 | 142 | 6,388,500 | 77 | 2,878,700 | 80 |
| SEPTEMBER | 4,358,800 | 64 | 1,760,000 | 62 | 1,147,300 | 52 | 286,000 | 118 | 6,506,800 | 79 | 2,822,100 | 79 |
| OCTOBER | 4,313,200 | 64 | 1,692,200 | 60 | 1,083,700 | 49 | 223,800 | 92 | 6,355,400 | 77 | 2,900,300 | 81 |
| NOVEMBER | 4,215,600 | 62 | 1,611,400 | 57 | 1,063,000 | 48 | 180,300 | 75 | 6,078,000 | 73 | 2,730,300 | 76 |
| DECEMBER | 4,024,000 | 59 | 1,649,000 | 58 | 1,051,400 | 48 | 195,200 | 81 | 6,050,600 | 73 | 2,837,000 | 79 |
| For the Year | 4,393,700 | 65 | 1,674,700 | 59 | 1,099,100 | 50 | 245,300 | 101 | 6,502,900 | 78 | 2,753,900 | 77 |

[1] Actual averages of Total District Consumption.

TABLE No. 9. — Concluded — (*Meter Basis*). [1]*Average Daily Consumption of Water in Cities and Towns, etc.*

| *City or Town* . . | SOMERVILLE | | STONEHAM | | SWAMPSCOTT | | WATERTOWN | | WINCHESTER (W. S.) | | WINTHROP | | METROPOLITAN DISTRICT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Population* . . | 106,300 | | 12,220 | | 11,970 | | 37,750 | | 900 | | 18,960 | | 1,430,590 | |
| MONTH | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | | *Gallons* | |
| | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* | *Per Day* | *Per Capita* |
| JANUARY . . | 11,408,800 | 107 | 630,900 | 52 | 897,700 | 75 | 2,510,400 | 67 | 34,600 | 38 | 1,332,900 | 70 | 177,048,800 | 124 |
| FEBRUARY . . | 11,804,900 | 111 | 640,800 | 52 | 847,600 | 71 | 2,464,700 | 65 | 57,100 | 63 | 1,392,000 | 73 | 175,704,700 | 123 |
| MARCH . . . | 11,738,700 | 110 | 653,600 | 53 | 838,400 | 70 | 2,539,700 | 67 | 54,400 | 60 | 1,350,000 | 71 | 164,350,400 | 115 |
| APRIL . . . | 11,290,500 | 106 | 687,300 | 56 | 867,100 | 72 | 2,488,600 | 66 | 49,200 | 55 | 1,391,000 | 73 | 156,914,800 | 110 |
| MAY . . . | 10,944,000 | 103 | 718,500 | 59 | 930,100 | 78 | 2,593,800 | 69 | 46,400 | 52 | 1,429,400 | 75 | 158,047,200 | 110 |
| JUNE . . . | 11,459,400 | 108 | 766,400 | 63 | 1,080,100 | 90 | 2,776,400 | 74 | 82,800 | 92 | 1,638,000 | 86 | 166,470,600 | 116 |
| JULY . . . | 12,452,600 | 117 | 811,300 | 66 | 1,445,900 | 121 | 2,940,400 | 78 | 214,500 | 238 | 1,931,900 | 102 | 178,886,500 | 125 |
| AUGUST . . | 11,887,900 | 112 | 659,300 | 54 | 1,001,400 | 84 | 2,687,700 | 71 | 75,600 | 84 | 1,780,600 | 94 | 166,663,200 | 116 |
| SEPTEMBER . . | 11,381,300 | 107 | 682,700 | 56 | 965,900 | 81 | 2,841,900 | 75 | 92,800 | 103 | 1,647,300 | 87 | 165,717,500 | 116 |
| OCTOBER . . | 10,812,300 | 102 | 692,000 | 57 | 905,800 | 76 | 2,963,800 | 79 | 76,100 | 85 | 1,399,700 | 74 | 162,386,800 | 113 |
| NOVEMBER . . | 10,470,100 | 98 | 646,600 | 53 | 866,800 | 72 | 2,870,700 | 76 | 68,300 | 76 | 1,354,700 | 71 | 158,899,600 | 111 |
| DECEMBER . . | 11,342,900 | 107 | 648,700 | 53 | 873,100 | 73 | 2,878,000 | 76 | 65,200 | 72 | 1,393,500 | 73 | 169,193,000 | 118 |
| For the Year . | 11,415,800 | 107 | 686,800 | 56 | 961,100 | 80 | 2,714,700 | 72 | 76,600 | 85 | 1,504,300 | 79 | 166,667,600 | 116 |

[1] Actual averages of Total District Consumption.

TABLE No. 10. — *Chemical Examinations of Water from the Wachusett Reservoir, Clinton*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 29/41 | 1 | — | V. faintly vegetable | Faintly vegetable | 32 | 11 | .008 | .082 | 6.6 | – | 2.4 | 11 |
| Mar. 5/41 | 1 | — | V. faintly vegetable | V. faintly vegetable | 32 | 9 | .014 | .100 | 6.6 | – | 2.2 | 17 |
| May 27/41 | 2 | — | Faintly vegetable | Faintly vegetable | 35 | 16 | .002 | .058 | 6.7 | – | 2.6 | 16 |
| July 27/41 | 2 | — | V. faintly vegetable | — | 32 | 12 | .016 | .068 | 6.5 | – | 2.5 | 18 |
| Sept. 30/41 | 2 | — | V. faintly vegetable | — | 40 | 15 | .002 | .076 | 6.9 | – | 2.6 | 17 |
| Dec. 2/41 | 2 | — | V. faintly vegetable | — | 37 | 12 | .006 | .090 | 6.7 | – | 2.2 | 11 |
| *Average* | 1.7 | — | ..... | ..... | 35 | 13 | .008 | .079 | 6.7 | – | 2.4 | 15 |
| Jan. 27/42 | 1 | — | V. faintly vegetable | — | 32 | 14 | .006 | .098 | 6.7 | – | 2.2 | 18 |
| Mar. 10/42 | 1 | — | V. faintly vegetable | — | 34 | 11 | .016 | .138 | 6.8 | – | 2.2 | 17 |
| May 26/42 | 1 | — | V. faintly vegetable | — | – | – | .008 | .126 | 7.0 | – | 2.4 | 13 |
| July 28/42 | 1 | — | V. faintly vegetable | — | – | – | .002 | .126 | 6.8 | – | 2.0 | 14 |
| Sept. 29/42 | 1 | — | V. faintly vegetable | — | – | – | .012 | .174 | 6.8 | – | 2.6 | 17 |
| Dec. 1/42 | 2 | — | V. faintly vegetable | — | – | – | .008 | .084 | 6.6 | – | 2.4 | 16 |
| *Average* | 1.2 | — | ..... | ..... | 33 | 12.5 | .009 | .124 | 6.8 | – | 2.3 | 16 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. 26/43 | 1 | — | V. faintly vegetable | — | – | – | .004 | .106 | 6.5 | – | 2.8 | 22 |
| May 25/43 | 2 | — | V. faintly vegetable | — | – | – | .008 | .058 | 6.2 | – | 2.5 | 13 |
| Sept. 28/43 | 2 | — | V. faintly vegetable | — | – | – | .006 | .058 | 6.7 | – | 2.2 | – |
| Nov. 30/43 | 1 | — | V. faintly vegetable | — | – | – | .002 | .080 | 6.7 | – | 2.2 | 13 |
| *Average* | 1.5 | — | — | — | – | – | .005 | .076 | 6.5 | – | 2.4 | 16 |
| Jan. 25/44 | 2 | — | V. faintly vegetable | — | – | – | .000 | .060 | 6.8 | – | 2.5 | 18 |
| Mar. 7/44 | 2 | — | V. faintly vegetable | — | – | – | .004 | .094 | 6.7 | – | 2.2 | 13 |
| May 23/44 | 1 | — | V. faintly vegetable | — | – | – | .026 | .136 | 6.7 | – | 2.5 | 13 |
| Oct. 3/44 | 2 | — | V. faintly vegetable | — | – | – | .004 | .142 | 6.7 | – | 2.4 | 11 |
| Nov. 27/44 | 2 | — | V. faintly vegetable | — | – | – | .014 | .120 | 6.7 | – | 2.0 | 13 |
| *Average* | 1.8 | — | ..... | — | – | – | .010 | .110 | 6.7 | – | 2.3 | 13.6 |
| Jan. 30/45 | 1 | — | V. faintly vegetable | — | – | – | .014 | .110 | 6.6 | – | 2.0 | 11 |
| Mar. 13/45 | 2 | — | V. faintly vegetable | — | – | – | .122 | .086 | 6.4 | – | 2.5 | 13 |
| June 12/45 | 2 | — | V. faintly vegetable | — | – | – | .024 | .132 | 6.8 | – | 2.2 | 6 |
| Sept. 25/45 | 1 | — | V. faintly vegetable | — | – | – | .014 | .130 | 6.6 | – | 2.6 | 14 |
| Dec. 4/45 | 1 | — | V. faintly vegetable | — | – | – | .002 | .126 | 6.8 | – | 2.0 | 10 |
| *Average* | 1.4 | — | ..... | ..... | – | – | .035 | .117 | 6.6 | – | 2.3 | 11 |
| Jan. 29/46 | 1 | 13 | V. faintly vegetable | — | – | – | 0.004 | 0.056 | 6.6 | 0.03 | 2.4 | 17 |
| Mar. 5/46 | 1 | 15 | V. faintly vegetable | — | – | – | 0.012 | 0.120 | 6.7 | 0.03 | 2.8 | 13 |
| June 4/46 | 2 | 18 | V. faintly vegetable | — | – | – | 0.008 | 0.108 | 6.8 | 0.03 | 2.6 | 10 |
| Sept. 24/46 | 3 | 18 | V. faintly vegetable | — | – | – | 0.004 | 0.080 | 6.8 | 0.03 | 2.4 | 14 |
| Dec. 9/46 | 1 | 18 | V. faintly vegetable | — | – | – | 0.002 | 0.062 | 6.8 | 0.05 | 2.5 | 13 |
| *Average* | 2 | 16 | ..... | ..... | – | – | 0.006 | 0.085 | 6.7 | 0.03 | 2.5 | 13 |

## TABLE No. 10a — *Chemical Examinations of Water from the Quabbin Reservoir, Belchertown*

(Parts per 1,000,000)

| DATE OF COLLECTION | APPEARANCE | | ODOR | | RESIDUE ON EVAPORATION | | AMMONIA | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| MAR. 14/44 | 2 | — | V. faintly vegetable | — | — | — | .008 | .174 | 6.6 | — | 1.6 | 11 |
| JUNE 1/44 | 1 | — | V. faintly vegetable | — | — | — | .016 | .128 | 6.6 | — | 1.6 | 14 |
| SEPT. 26/44 | 2 | — | V. faintly vegetable | — | — | — | .014 | .138 | 6.6 | — | 1.8 | 11 |
| DEC. 6/44 | 2 | — | V. faintly vegetable | — | — | — | .002 | .108 | 6.6 | — | 1.6 | 11 |
| *Average* | 1.8 | — | ..... | ..... | — | — | .010 | .137 | 6.6 | — | 1.7 | 12 |
| MAR. 5/45 | 1 | — | Faintly vegetable and sweetish | — | — | — | .092 | .052 | 5.0 | — | 1.4 | 5 |
| MAY 10/45 | 2 | — | V. faintly vegetable | — | — | — | .016 | .132 | 6.7 | — | 2.0 | 11 |
| SEPT. 5/45 | 2 | — | V. faintly vegetable | — | — | — | .032 | .174 | 6.7 | — | 1.4 | 8 |
| DEC. 4/45 | 1 | — | V. faintly vegetable | — | — | — | .002 | .118 | 6.6 | — | 1.6 | 11 |
| *Average* | 1.5 | — | ..... | ..... | — | — | .036 | .119 | 6.3 | — | 1.6 | 9 |
| MAR. 4/46 | 1 | 17 | V. faintly vegetable | — | — | — | 0.012 | 0.082 | 6.7 | 0.05 | 2.0 | 17 |
| MAY 6/46 | 2 | 7 | V. faintly vegetable | — | — | — | 0.008 | 0.118 | 6.7 | 0.05 | 2.0 | 14 |
| SEPT. 12/46 | 2 | 13 | V. faintly vegetable | — | — | — | 0.022 | 0.088 | 6.7 | 0.05 | 1.8 | 13 |
| DEC. 10/46 | 2 | 13 | V. faintly vegetable | — | — | — | 0.004 | 0.058 | 7.2 | 0.10 | 2.0 | 30 |
| *Average* | 2 | 13 | ..... | ..... | — | — | 0.012 | 0.087 | 6.8 | 0.06 | 2.0 | 19 |

## TABLE NO. 11. — *Chemical Examinations of Water from the Sudbury Reservoir*

(Parts per 1,000,000)

| DATE OF COLLECTION | APPEARANCE | | ODOR | | RESIDUE ON EVAPORATION | | AMMONIA | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| FEB. 4/41 | 1 | — | V. faintly vegetable | Faintly vegetable | 37 | 11 | .020 | .102 | 6.6 | – | 3.2 | 17 |
| MAR. 11/41 | 2 | — | V. faintly vegetable | Faintly vegetable | 40 | 19 | .018 | .104 | 6.6 | – | 2.4 | 17 |
| JUNE 10/41 | 2 | — | V. faintly vegetable | Faintly vegetable | 37 | 11 | .018 | .114 | 6.7 | – | 2.8 | 17 |
| AUG. 5/41 | 2 | — | V. faintly vegetable | — | 41 | 12 | .006 | .080 | 6.8 | – | 2.6 | 16 |
| OCT. 2/41 | 2 | — | V. faintly vegetable | — | 35 | 13 | .016 | .146 | 6.8 | – | 2.8 | 18 |
| DEC. 3/41 | 2 | — | Faintly vegetable | — | 33 | 13 | .002 | .078 | 6.8 | – | 2.4 | 17 |
| *Average* | 1.8 | — | ..... | ..... | 37 | 13 | .013 | .104 | 6.7 | – | 2.7 | 17 |
| JAN. 28/42 | 1 | — | V. faintly vegetable | — | 41 | 12 | .002 | .116 | 6.7 | – | 2.6 | 16 |
| MAR. 24/42 | 3 | — | V. faintly vegetable | — | 37 | 13 | .014 | .174 | 6.8 | – | 2.6 | 17 |
| MAY 26/42 | 2 | — | V. faintly vegetable | — | – | – | .018 | .138 | 6.8 | – | 3.2 | 16 |
| JULY 28/42 | 2 | — | V. faintly vegetable | — | – | – | .018 | .136 | 6.8 | – | 2.5 | 17 |
| SEPT. 29/42 | 1 | — | V. faintly vegetable | — | – | – | .024 | .146 | 6.6 | – | 2.5 | 17 |
| DEC. 1/42 | 2 | — | V. faintly vegetable | — | – | – | .006 | .096 | 6.6 | – | 2.4 | 13 |
| *Average* | 2 | — | ..... | ..... | 39 | 12.5 | .014 | .134 | 6.7 | – | 2.6 | 16 |
| JAN. 26/43 | 1 | — | V. faintly vegetable | — | – | – | .012 | .120 | 6.5 | – | 2.5 | 17 |
| MAY 25/43 | 2 | — | None | — | – | – | .016 | .102 | 6.4 | – | 2.8 | 21 |
| SEPT. 28/43 | 1 | — | V. faintly vegetable | — | – | – | .012 | .094 | 6.7 | – | 2.0 | – |
| NOV. 30/43 | 1 | — | V. faintly vegetable | — | – | – | .014 | .068 | 6.7 | – | 2.8 | 14 |
| *Average* | 1.25 | — | ..... | ..... | – | – | .014 | .096 | 6.6 | – | 2.5 | 17 |

TABLE No. 11.— Continued.— *Chemical Examinations of Water from Sudbury Reservoir*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 25/44 | 2 | — | V. faintly vegetable | — | 35 | 15 | .004 | .086 | 6.8 | – | 2.6 | 16 |
| Mar. 7/44 | 2 | — | Faintly unpleasant | — | – | – | .004 | .138 | 6.7 | – | 2.2 | 25 |
| May 23/44 | 2 | — | V. faintly vegetable | — | – | – | .014 | .238 | 6.8 | – | 3.2 | 17 |
| Sept. 26/44 | 1 | — | V. faintly vegetable | — | – | – | .002 | .122 | 6.7 | – | 2.6 | 10 |
| Nov. 28/44 | 2 | — | V. faintly vegetable | — | – | – | .004 | .142 | 6.7 | – | 2.5 | 21 |
| *Average* | 1.8 | — | ..... | ..... | – | – | .006 | .145 | 6.7 | – | 2.6 | 17.8 |
| Mar. 6/45 | 2 | — | V. faintly vegetable | — | – | – | .030 | .122 | 6.6 | – | 3.2 | 17 |
| June 6/45 | 2 | — | Faintly vegetable | — | – | – | .012 | .164 | 6.7 | – | 3.6 | 10 |
| Oct. 2/45 | 2 | — | V. faintly vegetable | — | – | – | .004 | .086 | 6.6 | – | 2.6 | 13 |
| Dec. 4/45 | 1 | — | V. faintly vegetable | — | – | – | .004 | .108 | 6.7 | – | 3.2 | 17 |
| *Average* | 2 | — | ..... | ..... | – | – | .013 | .120 | 6.7 | – | 3.2 | 14 |
| Jan. 29/46 | 1 | 32 | V. faintly vegetable | — | – | – | 0.008 | 0.012 | 6.5 | 0.10 | 3.2 | 18 |
| Mar. 5/46 | 2 | 19 | V. faintly vegetable | — | – | – | 0.034 | 0.116 | 6.5 | 0.05 | 3.2 | 16 |
| June 4/46 | 2 | 23 | V. faintly vegetable | — | – | – | 0.024 | 0.094 | 6.8 | 0.10 | 3.2 | 14 |
| Oct. 1/46 | 3 | 18 | V. faintly vegetable | — | – | – | 0.024 | 0.076 | 6.9 | 0.03 | 3.4 | 13 |
| Dec. 10/46 | 2 | 15 | V. faintly vegetable | — | – | – | 0.004 | 0.110 | 6.8 | 0.05 | 3.2 | 16 |
| *Average* | 2 | 21 | ..... | ..... | – | – | 0.019 | 0.082 | 6.7 | 0.07 | 3.2 | 15 |

## Table No. 12. — *Chemical Examinations of Water from Spot Pond, Stoneham*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | *Hdrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Feb. 3/41 | 2 | — | Faintly vegetable | Faintly vegetable | 36 | 11 | .080 | .098 | 6.6 | – | 3.8 | 18 |
| Mar. 10/41 | 2 | — | Faintly vegetable | Faintly vegetable | 45 | 18 | .108 | .106 | 6.5 | – | 3.8 | 17 |
| June 2/41 | 3 | — | Faintly vegetable | Distinctly vegetable | 37 | 13 | .158 | .112 | 6.6 | – | 3.8 | 16 |
| Aug. 4/41 | 3 | — | Faintly vegetable | — | 37 | 13 | .058 | .086 | 6.6 | – | 4.0 | 17 |
| Oct. 6/41 | 2 | — | Faintly vegetable | — | 36 | 13 | .110 | .100 | 6.8 | – | 3.9 | 18 |
| Dec. 8/41 | 2 | — | Faintly vegetable | — | 32 | 12 | .080 | .128 | 6.7 | – | 3.6 | 18 |
| *Average* | 2.3 | — | ..... | ..... | 37 | 13 | .099 | .105 | 6.6 | – | 3.8 | 17 |
| Feb. 2/42 | 1 | — | Faintly vegetable | — | 37 | 10 | .016 | .144 | 6.7 | – | 4.0 | 21 |
| Mar. 9/42 | 2 | — | Faintly vegetable | — | 44 | 19 | .006 | .122 | 6.7 | – | 4.4 | 18 |
| June 1/42 | 3 | — | Faintly vegetable | — | – | – | .160 | .196 | 6.6 | – | 3.6 | 16 |
| July 27/42 | 1 | — | V. faintly vegetable | — | – | – | .114 | .146 | 6.6 | – | 3.4 | 16 |
| Sept. 28/42 | 2 | — | V. faintly vegetable | — | – | – | .084 | .134 | 6.6 | – | 3.6 | 21 |
| Dec. 7/42 | 2 | — | V. faintly vegetable | — | – | – | .010 | .124 | 6.6 | – | 3.8 | 18 |
| *Average* | 2 | — | ..... | ..... | 41 | 15 | .065 | 1.44 | 6.6 | – | 3.8 | 18 |
| Feb. 1/43 | 2 | — | V. faintly vegetable | — | – | – | .094 | .086 | 6.4 | – | 3.8 | 17 |
| June 1/43 | 2 | — | Faintly vegetable | — | – | – | .104 | .116 | 6.8 | – | 3.8 | 14 |
| Sept. 27/43 | 2 | — | V. faintly vegetable | — | – | – | .120 | .064 | 7.1 | – | 4.2 | – |
| Nov. 29/43 | 2 | — | V. faintly vegetable | — | – | – | .016 | .102 | 6.8 | – | 4.0 | 17 |
| *Average* | 2 | — | ..... | ..... | – | – | .084 | .092 | 6.8 | – | 4.0 | 16 |

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentration | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Jan. 24/44 | 1 | — | V. faintly vegetable | — | 37 | 10 | .080 | .100 | 6.8 | – | 4.0 | 18 |
| Mar. 6/44 | 2 | — | V. faintly vegetable | — | – | – | .052 | .136 | 6.7 | – | 3.8 | 14 |
| May 23/44 | 2 | — | Faintly vegetable and unpleasant | — | – | – | .650 | .330 | 6.6 | – | 3.4 | 16 |
| Oct. 2/44 | 1 | — | V. faintly vegetable | — | – | – | .160 | .072 | 6.8 | – | 3.2 | 16 |
| Dec. 4/44 | 1 | — | Faintly unpleasant | — | – | – | .204 | .128 | 6.8 | – | 3.1 | 16 |
| *Average* | 1.4 | — | ..... | ..... | – | – | .229 | .153 | 6.7 | – | 3.6 | 16 |
| Jan. 29/45 | 1 | — | V. faintly vegetable | — | – | – | .186 | .096 | 6.7 | – | 3.2 | 16 |
| Feb. 26/45 | 1 | — | Faintly unpleasant | — | – | – | .166 | .128 | 6.7 | – | 3.2 | 18 |
| Mar. 5/45 | 1 | — | V. faintly unpleasant | — | – | – | .224 | .156 | 6.7 | – | 3.2 | 13 |
| June 11/45 | 2 | — | V. faintly vegetable | — | – | – | .116 | .148 | 6.8 | – | 3.8 | 11 |
| Oct. 1/45 | 2 | — | V. faintly vegetable | — | – | – | .040 | .128 | 6.7 | – | 4.0 | 13 |
| Dec. 10/45 | 1 | — | V. faintly vegetable | — | – | – | .106 | .074 | 6.7 | – | 3.4 | 16 |
| *Average* | 1 | — | ..... | ..... | – | – | .389 | .122 | 6.7 | – | 3.5 | 15 |
| Feb. 4/46 | 1 | 11 | V. faintly vegetable | — | – | – | 0.144 | 0.056 | 6.6 | 0.05 | 3.4 | 20 |
| Mar. 11/46 | 1 | 10 | Faintly vegetable | — | – | – | 0.256 | 0.104 | 6.9 | 0.08 | 3.2 | 17 |
| June 2/46 | 3 | 12 | Faintly vegetable | — | – | – | 0.052 | 0.156 | 6.9 | 0.08 | 4.0 | 18 |
| Sept. 23/46 | 3 | 10 | V. faintly vegetable | — | – | – | 0.012 | 0.090 | 6.9 | 0.05 | 4.0 | 13 |
| Dec. 23/46 | 1 | 12 | F. vegetable & grassy | — | – | – | 0.070 | 0.088 | 6.6 | 0.03 | 3.2 | 14 |
| *Average* | 2 | 11 | ..... | ..... | – | – | 0.107 | 0.099 | 6.8 | 0.06 | 3.6 | 16 |

## TABLE No. 13. — *Chemical Examinations of Water from Lake Cochituate*

(Parts per 1,000,000)

| DATE OF COLLECTION | APPEARANCE | | ODOR | | RESIDUE ON EVAPORATION | | AMMONIA | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| JAN. 29/41 | 1 | — | V. faintly vegetable | Faintly vegetable | 66 | 15 | .036 | .146 | 6.8 | – | 6.6 | 20 |
| | | | and unpleasant | and unpleasant | 69 | 19 | .054 | .142 | 6.7 | – | 7.6 | 30 |
| MAR. 5/41 | 2 | — | V. faintly vegetable | Distinctly vegetable | | | | | | | | |
| MAY 28/41 | 2 | — | Faintly vegetable and unpleasant | Faintly vegetable and unpleasant | 72 | 18 | .004 | .146 | 7.1 | – | 7.4 | 31 |
| JULY 29/41 | 2 | — | Faintly vegetable | — | 73 | 20 | .028 | .126 | 6.9 | – | 7.8 | 30 |
| OCT. 1/41 | 2 | — | Faintly vegetable | — | 73 | 21 | .002 | .124 | 7.1 | – | 8.0 | 33 |
| DEC. 3/41 | 2 | — | Faintly vegetable | — | 61 | 14 | .022 | .142 | 6.9 | – | 7.8 | 30 |
| *Average* | 1.8 | — | ..... | ..... | 69 | 18 | .024 | .138 | 6.9 | – | 7.5 | 29 |
| JAN. 28/42 | 1 | — | Faintly vegetable | — | 61 | 17 | .038 | .168 | 6.9 | – | 7.2 | 26 |
| MAR. 11/42 | 2 | — | V. faintly vegetable | — | 69 | 18 | .056 | .136 | 6.8 | – | 7.6 | 20 |
| MAY 27/42 | 2 | — | F. vegetable & grassy | — | – | – | .020 | .168 | 7.0 | – | 7.8 | 33 |
| JULY 29/42 | 1 | — | Faintly vegetable | — | – | – | .008 | .210 | 7.0 | – | 8.0 | 31 |
| SEPT. 28/42 | 1 | — | Faintly vegetable | — | – | – | .038 | .180 | 7.0 | – | 8.0 | 31 |
| DEC. 2/42 | 3 | — | V. faintly vegetable | — | – | – | .078 | .184 | 6.8 | – | 7.2 | 30 |
| *Average* | 2 | — | ..... | ..... | 65 | 18 | .040 | .174 | 6.9 | – | 7.6 | 29 |
| JAN. 26/43 | 1 | — | V. faintly vegetable | — | – | – | .102 | .190 | 6.6 | – | 8.0 | 33 |
| SEPT. 28/43 | 2 | — | V. faintly vegetable | — | – | – | .012 | .086 | 7.1 | – | 7.5 | – |
| NOV. 3/43 | 4 | — | Grassy | — | – | – | .000 | .160 | 6.8 | – | 7.3 | 30 |
| *Average* | 2.3 | — | ..... | ..... | – | – | .038 | .145 | 6.8 | – | 7.6 | 31.5 |

TABLE No. 13.— Continued.— *Chemical Examinations of Water from Lake Cochituate*

(Parts per 1,000,000)

| DATE OF COLLECTION | APPEARANCE | | ODOR | | RESIDUE ON EVAPORATION | | AMMONIA | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| JAN. 25/44 | 4 | — | F. oily and unpleasant | — | 75 | 21 | .258 | .426 | 7.0 | – | 7.6 | 29 |
| MAR. 7/44 | 4 | — | V. faintly vegetable | — | – | – | .060 | .204 | 6.7 | – | 7.6 | 29 |
| MAY 22/44 | 2 | — | V. faintly vegetable | — | – | – | .018 | .250 | 6.9 | – | 8.0 | 30 |
| SEPT. 27/44 | 2 | — | V. faintly vegetable | — | – | – | .004 | .160 | 7.0 | – | 8.3 | 29 |
| NOV. 28/44 | 3 | — | V. faintly vegetable | — | – | – | .068 | .202 | 7.0 | – | 8.0 | 34 |
| *Average* | 3 | — | ..... | ..... | – | – | .082 | .248 | 6.9 | – | 7.9 | 30 |
| JAN. 30/45 | 1 | — | V. faintly vegetable | — | – | – | .042 | .144 | 6.7 | – | 8.6 | 30 |
| MAR. 6/45 | 3 | — | V. faintly vegetable | — | – | – | .158 | .156 | 6.7 | – | 7.8 | 27 |
| JUNE 12/45 | 1 | — | V. faintly vegetable | — | – | – | .036 | .172 | 7.1 | – | 3.8 | 25 |
| SEPT. 25/45 | 2 | — | Faintly vegetable | — | – | – | .016 | .164 | 6.9 | – | 8.0 | 27 |
| DEC. 4/45 | 2 | — | V. faintly vegetable | — | – | – | .012 | .156 | 6.9 | – | 3.2 | 26 |
| *Average* | 2 | — | ..... | ..... | – | – | .053 | .158 | 6.9 | – | 6.3 | 27 |
| JAN. 29/46 | 3 | 32 | V. faintly vegetable | — | – | – | 0.052 | 0.132 | 6.6 | 1.00 | 8.0 | 34 |
| MAR. 5/46 | 4 | 36 | Faintly unpleasant | — | – | – | 0.088 | 0.100 | 6.4 | 0.30 | 8.8 | 17 |
| JUNE 4/46 | 3 | 36 | V. faintly vegetable | — | – | – | 0.012 | 0.114 | 7.0 | 0.08 | 8.0 | 31 |
| SEPT. 24/46 | 3 | 23 | V. faintly vegetable | — | – | – | 0.012 | 0.074 | 7.1 | 0.03 | 8.2 | 25 |
| DEC. 10/46 | 2 | 23 | V. faintly vegetable | — | – | – | 0.044 | 0.118 | 7.0 | 0.20 | 8.2 | 27 |
| *Average* | 3 | 30 | ..... | ..... | – | – | 0.042 | 0.108 | 6.8 | 0.32 | 8.2 | 27 |

## Table No. 14. — *Chemical Examinations of Water from a Tap at the State House, Boston*

(Parts per 1,000,000)

| Date of Collection | Appearance | | Odor | | Residue on Evaporation | | Ammonia | | Hydrogen-ion Concentrate | Manganese | Chlorine | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| Mar. 12/41 | 1 | — | V. faintly vegetable | Faintly vegetable | 38 | 12 | .176 | .108 | 6.6 | – | 4.0 | 18 |
| June 4/41 | 3 | — | Faintly vegetable | Distinctly vegetable | 36 | 12 | .104 | .102 | 6.7 | – | 3.6 | 17 |
| *Average* | 2 | — | ..... | ..... | 37 | 12 | .140 | .105 | 6.7 | – | 3.8 | 18 |
| Mar. 4/42 | 2 | — | Distinctly vegetable and unpleasant | — | 37 | 10 | .044 | .126 | 6.5 | – | 3.8 | 18 |
| May 27/42 | 2 | — | Faintly vegetable | — | – | – | .152 | .146 | 6.6 | – | 3.8 | 20 |
| July 24/42 | 1 | — | V. faintly vegetable | — | – | – | .002 | .098 | 6.6 | – | 4.0 | 16 |
| Nov. 30/42 | 3 | — | Faintly vegetable | — | – | – | .146 | .116 | 6.6 | – | 3.6 | 21 |
| *Average* | 2 | — | ..... | ..... | 37 | 10 | .086 | .122 | 6.6 | – | 3.8 | 19 |
| Jan. 25/43 | 1 | — | V. faintly vegetable | — | – | – | .164 | .112 | 6.6 | – | 4.0 | 20 |
| June 1/43 | 2 | — | V. faintly vegetable | — | – | – | .092 | .152 | 6.8 | – | 4.0 | 14 |
| Nov. 30/43 | 2 | — | V. faintly vegetable | — | – | – | .110 | .074 | 6.3 | – | 3.9 | 14 |
| *Average* | 1.67 | — | ..... | ..... | – | – | .122 | .113 | 6.6 | – | 4.0 | 16 |

TABLE No. 14.— Continued.— *Chemical Examinations of Water from a Tap at the State House, Boston*

(Parts per 1,000,000)

| DATE OF COLLECTION | APPEARANCE | | ODOR | | RESIDUE ON EVAPORATION | | AMMONIA | | *Hydrogen-ion Concentration* | *Manganese* | *Chlorine* | *Hardness* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Turbidity* | *Sediment* | *Cold* | *Hot* | *Total* | *Loss on Ignition* | *Free* | *Albuminoid* | | | | |
| JAN. 27/44 | 1 | — | V. faintly vegetable | — | 42 | 19 | .162 | .072 | 6.7 | – | 4.0 | 17 |
| MAR. 10/44 | 2 | — | Faintly vegetable | — | – | – | .154 | .130 | 6.7 | – | 3.8 | 17 |
| MAY 25/44 | 2 | — | V. faintly vegetable | — | – | – | .090 | .174 | 6.7 | – | 4.0 | 21 |
| SEPT. 26/44 | 2 | — | V. faintly vegetable | — | – | – | .028 | .132 | 6.6 | – | 4.0 | 13 |
| DEC. 11/44 | 3 | — | Faintly vegetable | — | – | – | .137 | .084 | 6.7 | – | 3.8 | 14 |
| *Average* | 2 | — | ..... | ..... | – | – | .113 | .118 | 6.7 | – | 3.9 | 16 |
| JAN. 30/45 | 2 | — | V. faintly vegetable | — | – | – | .170 | .112 | 6.7 | – | 4.0 | 20 |
| MAR. 13/45 | 2 | — | V. faintly vegetable | — | – | – | .166 | .064 | 6.5 | – | 4.0 | 16 |
| JUNE 12/45 | 2 | — | V. faintly vegetable | — | – | – | .104 | .126 | 6.7 | – | 4.8 | 17 |
| OCT. 29/45 | 3 | — | V. faintly vegetable | — | – | – | .068 | .138 | 6.7 | – | 4.0 | 16 |
| *Average* | 2 | — | ..... | ..... | – | – | .127 | .110 | 6.7 | – | 4.2 | 17 |
| FEB. 6/46 | 1 | 20 | V. faintly vegetable | — | – | – | 0.120 | 0.094 | 6.5 | 0.10 | 5.2 | 21 |
| MAR. 11/46 | 7 | 20 | Faintly vegetable | — | – | – | 0.158 | 0.140 | 6.6 | 0.25 | 5.2 | 18 |
| JUNE 19/46 | 3 | 22 | V. faintly vegetable | — | – | – | 0.006 | 0.088 | 6.7 | 0.08 | 4.8 | 16 |
| SEPT. 23/46 | 2 | 20 | V. faintly vegetable | — | – | – | 0.018 | 0.074 | 6.7 | 0.07 | 4.0 | 14 |
| DEC. 3/46 | 2 | 17 | F. vegetable & fishy | — | – | – | 0.090 | 0.114 | 6.8 | 0.05 | 4.0 | 16 |
| *Average* | 3 | 20 | ..... | ..... | – | – | 0.078 | 0.102 | 6.7 | 0.11 | 4.6 | 17 |

TABLE No. 15. — *Chemical Examinations of Water from a Faucet in Boston 1898–1946*

(Parts per 1,000,000)

| Year | Color | Residue on Evaporation | | Ammonia | | | | Chlorides | Oxygen Consumed | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Albuminoid | | | | | |
| | Platinum Standard | Total | Loss on Ignition | Free | Total | Dissolved | Suspended | | | |
| 1898 . . | 40 | 41.9 | 16.0 | .008 | .152 | .136 | .016 | 2.9 | 4.4 | 14 |
| 1899 . . | 28 | 37.0 | 13.0 | .006 | .136 | .122 | .014 | 2.4 | 3.5 | 11 |
| 1900 . . | 29 | 38.0 | 12.0 | .012 | .157 | .139 | .018 | 2.5 | 3.8 | 13 |
| 1901 . . | 29 | 44.3 | 16.4 | .013 | .158 | .142 | .016 | 3.0 | 4.2 | 17 |
| 1902 . . | 30 | 39.3 | 15.6 | .016 | .139 | .119 | .020 | 2.9 | 4.0 | 17 |
| 1903 . . | 29 | 39.8 | 15.0 | .013 | .125 | .110 | .015 | 3.0 | 3.9 | 15 |
| 1904 . . | 23 | 39.3 | 15.9 | .023 | .139 | .121 | .018 | 3.4 | 3.7 | 15 |
| 1905 . . | 24 | 38.6 | 15.9 | .020 | .145 | .124 | .021 | 3.5 | 3.5 | 14 |
| 1906 . . | 24 | 38.6 | 13.9 | .018 | .159 | .134 | .025 | 3.4 | 3.6 | 13 |
| 1907 . . | 22 | 38.3 | 14.0 | .013 | .129 | .109 | .020 | 3.3 | 3.2 | 13 |
| 1908 . . | 19 | 35.0 | 13.5 | .011 | .115 | .092 | .024 | 3.3 | 2.6 | 12 |
| 1909 . . | 18 | 34.6 | 14.3 | .011 | .128 | .103 | .025 | 2.8 | 2.5 | 13 |
| 1910 . . | 14 | 30.5 | 12.4 | .013 | .118 | .102 | .016 | 2.8 | 2.2 | 11 |
| 1911 . . | 25 | 41.8 | 16.6 | .015 | .156 | .128 | .029 | 3.8 | 3.3 | 14 |
| 1912 . . | 17 | 38.6 | 12.3 | .018 | .154 | .119 | .034 | 3.6 | 2.9 | 17 |
| 1913 . . | 13 | 39.6 | 11.5 | .014 | .150 | .120 | .026 | 3.5 | 2.6 | 15 |
| 1914 . . | 14 | 41.2 | 11.9 | .014 | .138 | .116 | .022 | 3.9 | 2.5 | 14 |
| 1915 . . | 16 | 37.3 | 10.4 | .015 | .157 | .134 | .023 | 3.8 | 2.5 | 14 |
| 1916 . . | 18 | 45.3 | 18.5 | .013 | .133 | .107 | .026 | 3.6 | | 14 |
| 1917 . . | 15 | 44.5 | 16.8 | .015 | .142 | .124 | .018 | 3.3 | | 13 |
| 1918 . . | 18 | 38.9 | 14.5 | .019 | .154 | .128 | .026 | 2.9 | | 14 |
| 1919 . . | 20 | 42.8 | 14.1 | .010 | .130 | .108 | .022 | 3.6 | | 15 |
| 1920 . . | 17 | 42.3 | 13.5 | .012 | .112 | .097 | .014 | 3.3 | | 15 |
| 1921 . . | 13 | 38.0 | 13.9 | .006 | .104 | .089 | .015 | 2.5 | | 14 |
| 1922 . . | 16 | 39.8 | 15.5 | .011 | .097 | .080 | .017 | 3.0 | | 18 |
| 1923 . . | 15 | 39.0 | 14.5 | .011 | .100 | .090 | .010 | 2.6 | | 15 |
| 1924 . . | 12 | 41.0 | 16.0 | .011 | .109 | .084 | .025 | 2.8 | | 15 |
| 1925 . . | 9 | 39.8 | 16.2 | .013 | .109 | .093 | .016 | 2.9 | | 15 |
| 1926 . . | 10 | 41.8 | 16.8 | .015 | .115 | .092 | .023 | 3.2 | | 15 |
| 1927 . . | 22 | 44.7 | 16.2 | .013 | .111 | .101 | .018 | 3.4 | | 19 |
| 1928 . . | 27 | 44.3 | 17.2 | .011 | .124 | .106 | .018 | 3.7 | | 15 |
| 1929 . . | 21 | 42.6 | 17.1 | .007 | .106 | .074 | .032 | 3.0 | | 13 |
| 1930 . . | 16 | 40.7 | 13.4 | .012 | .071 | .055 | .016 | 3.4 | | 13 |
| 1931 . . | 24 | 48.8 | 16.4 | .013 | .097 | .072 | .025 | 4.5 | | 20 |
| 1932 . . | 19 | 43.5 | 16.0 | .007 | .102 | .075 | .027 | 3.9 | | 16 |
| 1933 . . | 19 | 41.5 | 14.1 | .010 | .095 | .069 | .026 | 4.0 | | 19 |
| 1934 . . | 19 | 40.3 | 13.8 | .013 | .083 | .062 | .021 | 3.8 | | 19 |

TABLE No. 15. — *Chemical Examinations of Water from a Faucet in Boston 1898–1946*

(Parts per 1,000,000)

| Year | Color | Residue on Evaporation | | Free Ammonia | Total Albumen Ammonia | Hydrogen-ion Concentration | Iron | Chlories | Alkalinity | Hardness |
|---|---|---|---|---|---|---|---|---|---|---|
| | Platinum Standard | Total | Loss on Ignition | | | | | | | |
| 1935 . . | 17 | 42.9 | 15.6 | .027 | .095 | 6.7 | 0.10 | 4.0 | | 17 |
| 1936 . . | 15 | 37.8 | 12.8 | .009 | .099 | 6.8 | 0.11 | 3.9 | | 18 |
| 1937 . . | 19 | 41.0 | 13.8 | .041 | .093 | 6.6 | 0.13 | 4.0 | | 18 |
| 1938 . . | 25 | 45.8 | 17.0 | .078 | .090 | | | 4.0 | 10.2 | 19 |
| 1939 . . | 21 | 41.0 | 14.0 | .149 | .107 | 6.7 | 0.13 | 4.1 | 10.8 | 17 |
| 1940 . . | 16 | 40.8 | 14.0 | .130 | .097 | 6.7 | 0.12 | 4.1 | 11.6 | 18 |
| 1941 . . | 12 | 37.0 | 12.0 | .140 | .105 | 6.7 | 0.13 | 3.8 | 12.0 | 18 |
| 1942 . . | 14 | 37.0 | 10.0 | .086 | .122 | 6.6 | 0.11 | 3.8 | 12.5 | 19 |
| 1943 . . | 15 | | | .122 | .113 | 6.6 | 0.12 | 4.0 | 9.7 | 16 |
| 1944 . . | 13 | 42.0 | 19.0 | .113 | .118 | 6.7 | 0.12 | 3.9 | 11.0 | 16 |
| 1945 . . | 17 | | | .127 | .110 | 6.7 | 0.13 | 4.2 | | 17 |
| 1946 . . | 20 | | | .078 | .102 | 6.7 | 0.11 | 4.6 | | 17 |

TABLE No. 16. — *Number of Bacteria per Cubic Centimeter in Water at Various Places on the Metropolitan Water Works, 1898–1946*

(Averages of Weekly Determinations)

| YEAR | CHESTNUT HILL RESERVOIR | | | SOUTHERN SERVICE TAPS | |
|---|---|---|---|---|---|
| | *Sudbury Aqueduct Terminal Chamber* | *Cochituate Aqueduct* | *Effluent Gate House No. 2* | *Low Service 182 Boylston Street* | *High Service 20 Somerset Street* |
| 1898 | 207 | 145 | 111 | 96 | |
| 1899 | 224 | 104 | 217 | 117 | 123 |
| 1900 | 248 | 113 | 256 | 188 | 181 |
| 1901 | 225 | 149 | 169 | 162 | 168 |
| 1902 | 203 | 168 | 121 | 164 | 246 |
| 1903 | 76 | 120 | 96 | 126 | 243 |
| 1904 | 347 | 172 | 220 | 176 | 355 |
| 1905 | 495 | 396 | 489 | 231 | 442 |
| 1906 | 231 | 145 | 246 | 154 | 261 |
| 1907 | 147 | 246 | 118 | 130 | 176 |
| 1908 | 162 | 138 | 137 | 136 | 148 |
| 1909 | 198 | 229 | 119 | 150 | 195 |
| 1910 | 216 | – | 180 | 178 | 213 |
| 1911 | 205 | 204 | 151 | 175 | 197 |
| 1912 | 429 | 450 | 227 | 249 | 259 |
| 1913 | 123 | 243 | 157 | 119 | 140 |
| 1914 | 288 | – | 252 | 174 | 220 |
| 1915 | 163 | – | 128 | 117 | 134 |
| 1916 | 128 | – | 85 | 102 | 105 |
| 1917 | 178 | 112 | 119 | 119 | 141 |
| 1918 | 1,163 | 168 | 705 | 317 | 544 |
| 1919 | 92 | 85 | 100 | 70 | 84 |
| 1920 | 148 | 86 | 108 | 113 | 112 |
| 1921 | 103 | – | 83 | 92 | 92 |
| 1922 | 163 | – | 153 | 160 | 172 |
| 1923 | 229 | – | 178 | 217 | 230 |
| 1924 | 137 | – | 96 | 150 | 160 |
| 1925 | 144 | 251 | 120 | 155 | 174 |
| 1926 | 167 | – | 118 | 130 | 137 |
| 1927 | 119 | 185 | 70 | 81 | 101 |
| 1928 | 144 | 32 | 86 | 106 | 106 |
| 1929 | 128 | – | 84 | 130 | 144 |
| 1930 | 107 | – | 66 | 105 | 123 |
| 1931 | 82* | 4* | 43 | 80 | 101 |
| 1932 | 121* | – | 63 | 123 | 147 |
| 1933 | 20* | – | 15 | 40 | 45 |
| 1934 | 10* | – | 26 | 42 | 31 |
| 1935 | 4* | – | 32 | 35 | 18 |
| 1936 | 21* | – | 56 | 51 | 59 |
| 1937 | 12* | – | 50 | 90 | 21 |
| 1938 | 3* | – | 49 | 13 | 14 |
| 1939 | 4* | – | 111 | 6 | 22 |
| 1940 | 4* | – | 180 | 3* | 8* |
| 1941 | 4* | – | 126 | 32* | 6* |
| 1942 | 5* | – | 31 | 7* | 8* |
| 1943 | 6* | – | 149 | 13* | 25* |
| 1944 | 12* | – | 73 | 20* | 12* |
| 1945 | 4* | – | 41* | 6* | 8* |
| 1946 | 3* | – | 77* | 22* | 16* |

* After sterilization

*The Average Daily Consumption of Water in Each of the Municipalities in the Metropolitan Water District from 1940 to 1946 is as follows:*

(Average Daily Consumption)

| | Estimated Population 1941 | 1940 | | 1941 | | Increase in Gallons | Estimated Population 1942 | 1942 | | Increase in Gallons | Estimated Population 1943 | 1943 | | Increase in Gallons | Estimated Population 1944 | 1944 | | Increase in Gallons | Estimated Population 1945 | 1945 | | Increase in Gallons | Estimated Population 1946 | 1946 | | Increase in Gallons |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Gallons | Gals. per Capita | Gallons | Gals. per Capita | | | Gallons | Gals. per Capito | | | Gallons | Gals. per Capita | | | Gallons | Gals. per Capita | | | Gallons[3] | Gals.[2] per Capita | | | Gallons[2] | Gals.[1] per Capita | |
| Arlington | 40,390 | 2,166,900 | 54 | 2,278,500 | 56 | 111,600 | 40,670 | 2,234,100 | 55 | 44,400[1] | 40,940 | 2,335,000 | 57 | 100,900 | 41,220 | 2,542,500 | 62 | 207,500 | 43,520 | 2,446,600 | 56 | 95,900[1] | 44,220 | 2,710,400 | 61 | 263,800 |
| Belmont | 27,400 | 1,523,500 | 56 | 1,626,200 | 59 | 102,700 | 27,800 | 1,580,300 | 57 | 45,900[1] | 28,200 | 1,499,600 | 53 | 80,700[1] | 28,600 | 1,719,500 | 60 | 219,900 | 28,870 | 1,764,100 | 61 | 44,600 | 29,300 | 2,015,800 | 69 | 251,700 |
| Boston | 771,450 | 94,830,500 | 123 | 97,767,600 | 127 | 2,937,100 | 772,340 | 102,100,500 | 132 | 4,332,900 | 773,220 | 106,046,300 | 137 | 3,945,800 | 774,110 | 109,622,600 | 142 | 3,576,300 | 766,390 | 110,676,200 | 144 | 1,053,600 | 766,910 | 110,950,800 | 145 | 274,600 |
| Chelsea | 40,910 | 3,439,000 | 84 | 3,554,800 | 87 | 115,800 | 40,680 | 3,831,200 | 94 | 276,400 | 40,460 | 3,865,600 | 96 | 34,400 | 40,230 | 4,086,300 | 102 | 220,700 | 39,940 | 4,275,700 | 107 | 189,400 | 39,550 | 4,336,300 | 110 | 60,600 |
| Everett | 46,890 | 4,867,200 | 104 | 5,762,300 | 123 | 895,100 | 47,040 | 6,326,100 | 134 | 563,800 | 47,200 | 7,093,700 | 150 | 767,600 | 47,350 | 7,000,400 | 148 | 93,300[1] | 48,550 | 7,130,500 | 147 | 130,100 | 48,840 | 6,915,500 | 142 | 215,000[1] |
| Lexington | 13,630 | 659,900 | 50 | 749,700 | 55 | 89,800 | 13,970 | 699,600 | 50 | 50,100[1] | 14,310 | 821,900 | 57 | 122,300 | 14,660 | 848,600 | 58 | 26,700 | 14,450 | 808,900 | 56 | 39,700[1] | 14,760 | 879,600 | 60 | 70,700 |
| Malden | 58,400 | 4,202,300 | 72 | 4,378,500 | 75 | 176,200 | 58,800 | 4,275,600 | 73 | 102,900[1] | 59,200 | 4,417,600 | 75 | 142,000 | 59,600 | 4,523,300 | 76 | 105,700 | 59,570 | 4,702,200 | 79 | 178,900 | 59,660 | 4,830,200 | 81 | 128,000 |
| Medford | 63,540 | 3,433,300 | 54 | 3,630,300 | 57 | 197,000 | 63,900 | 3,707,500 | 58 | 77,200 | 64,270 | 3,814,600 | 59 | 107,100 | 64,630 | 4,332,400 | 67 | 517,800 | 67,070 | 4,074,000 | 61 | 258,400[1] | 67,660 | 4,393,700 | 65 | 319,700 |
| Melrose | 25,500 | 1,392,600 | 55 | 1,464,500 | 57 | 71,900 | 25,630 | 1,502,600 | 59 | 38,100 | 25,750 | 1,519,400 | 59 | 16,800 | 25,870 | 1,525,000 | 59 | 5,600 | 27,970 | 1,522,600 | 54 | 2,400[1] | 28,380 | 1,674,700 | 59 | 152,100 |
| Milton | 18,950 | 976,300 | 52 | 1,039,600 | 55 | 63,300 | 19,140 | 1,016,700 | 53 | 22,900[1] | 19,320 | 1,104,100 | 57 | 87,400 | 19,510 | 1,071,400 | 55 | 32,700[1] | 21,720 | 984,200 | 45 | 87,200[1] | 21,980 | 1,099,100 | 50 | 114,900 |
| Nahant | 1,850 | 199,100 | 108 | 252,400 | 136 | 53,300 | 1,860 | 228,200 | 123 | 24,200[1] | 1,880 | 246,300 | 131 | 18,100 | 1,890 | 250,100 | 132 | 3,800 | 2,400 | 234,000 | 98 | 16,100[1] | 2,420 | 245,300 | 101 | 11,300 |
| Quincy | 76,230 | 4,920,000 | 65 | 5,076,000 | 67 | 156,000 | 76,550 | 5,604,400 | 73 | 528,400 | 76,860 | 5,994,000 | 78 | 389,600 | 77,180 | 5,970,800 | 77 | 23,200[1] | 82,080 | 6,043,900 | 74 | 73,100 | 82,860 | 6,502,900 | 78 | 459,000 |
| Revere | 34,500 | 2,090,500 | 61 | 1,924,500 | 56 | 166,000[1] | 34,620 | 2,215,300 | 64 | 290,800 | 34,750 | 2,424,100 | 70 | 208,800 | 34,870 | 2,446,100 | 70 | 22,000 | 35,690 | 2,585,600 | 72 | 139,500 | 35,950 | 2,753,900 | 77 | 168,300 |
| Somerville | 102,300 | 9,337,000 | 91 | 9,913,000 | 97 | 576,000 | 102,480 | 9,755,400 | 95 | 157,600[1] | 102,650 | 10,410,300 | 101 | 654,900 | 102,830 | 10,744,300 | 104 | 334,000 | 105,880 | 10,903,100 | 103 | 158,800 | 106,300 | 11,415,800 | 107 | 512,700 |
| Stoneham | 10,830 | 658,000 | 61 | 657,600 | 61 | 400[1] | 10,870 | 629,300 | 58 | 28,300[1] | 10,920 | 653,300 | 60 | 24,000 | 10,960 | 749,500 | 68 | 96,200 | 12,030 | 643,400 | 53 | 106,100[1] | 12,220 | 686,800 | 56 | 43,400 |
| Swampscott | 10,780 | 834,400 | 77 | 822,100 | 76 | 12,300[1] | 10,790 | 836,900 | 78 | 14,800 | 10,790 | 892,300 | 83 | 55,400 | 10,800 | 893,200 | 83 | 900 | 11,840 | 859,100 | 73 | 34,100[1] | 11,970 | 961,100 | 80 | 102,000 |
| Watertown | 35,550 | 2,354,200 | 66 | 3,003,500 | 84 | 649,300 | 35,660 | 3,269,600 | 92 | 266,100 | 35,780 | 3,272,800 | 91 | 3,200 | 35,890 | 2,718,700 | 76 | 554,100[1] | 37,440 | 2,523,400 | 67 | 195,300[1] | 37,750 | 2,714,700 | 72 | 191,300 |
| Winchester (west side) | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 900 | 76,600 | 85 | 76,600 |
| Winthrop | 17,020 | 1,282,900 | 76 | 1,401,900 | 82 | 119,000 | 17,260 | 1,362,000 | 79 | 39,900[1] | 17,510 | 1,464,700 | 84 | 102,700 | 17,750 | 1,404,400 | 79 | 60,300[1] | 18,700 | 1,394,700 | 75 | 9,700[1] | 18,960 | 1,504,300 | 79 | 109,600 |
| District supplied | 1,396,120 | 139,167,600 | 100 | 145,303,000 | 104 | 6,135,400 | 1,400,060 | 151,175,300 | 108 | 5,872,300 | 1,404,010 | 157,875,600 | 112 | 6,700,300 | 1,407,950 | 162,449,100 | 115 | 4,573,500 | 1,424,110 | 163,572,300 | 115 | 1,123,200 | 1,430,590 | 166,667,600 | 116 | 3,095,300 |
| Brookline | 50,180 | 4,864,000 | 98 | 5,032,200 | 100 | 168,200 | 50,520 | 4,830,800 | 96 | 201,400[1] | 50,840 | 4,956,400 | 97 | 125,600 | 51,170 | 4,999,900 | 98 | 43,500 | 56,940 | 4,998,800 | 88 | 1,100[1] | 58,350 | 5,184,400 | 89 | 185,600 |
| Newton | 70,390 | 5,130,000 | 73 | 5,363,200 | 76 | 233,200 | 70,790 | 5,268,800 | 74 | 94,400[1] | 71,190 | 5,560,400 | 78 | 291,600 | 71,600 | 5,852,500 | 82 | 292,100 | 77,260 | 5,560,500 | 72 | 292,000[1] | 78,610 | 6,111,900 | 78 | 551,400 |
| Total District | 1,516,690 | 149,161,600 | 99 | 155,698,400 | 103 | 6,536,800 | 1,521,370 | 161,274,900 | 106 | 5,576,500 | 1,526,040 | 168,392,400 | 110 | 7,117,500 | 1,530,720 | 173,301,500 | 113 | 4,909,100 | 1,558,310 | 174,131,600 | 112 | 830,100 | 1,567,550 | 177,964,200 | 114 | 3,832,600 |

[1] Decrease

[2] Based on 1945 Census.

[3] Actual averages of Total District Consumption.

*The Consumption by Districts from 1941 to 1946 is as follows:*

| | Gallons[1] per Day 1941 | Increase from 1940 | | Gallons[1] per Day 1942 | Increase from 1941 | | Gallons[1] per Day 1943 | Increase from 1942 | | Gallons[1] per Day 1944 | Increase from 1943 | | Gallons[1] per Day 1945 | Increase from 1944 | | Gallons[1] per Day 1946 | Increase from 1945 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Gallons per Day | Percentage | | Gallons per Day | Percentage | | Gallons per Day | Percentage | | Gallons per Day | Percentage | | Gallons per Day | Percentage | | Gallons per Day | Percentage |
| Low-service district, embracing the low-service districts of Arlington, Belmont, Boston, Chelsea, Everett, Malden, Medford, Somerville and Watertown | 75,970,400 | 2,652,300 | 3.62 | 80,598,500 | 4,628,100 | 6.09 | 84,582,000 | 3,983,500 | 4.94 | 87,282,500 | 2,700,500 | 3.19 | 86,030,100 | 1,252,400[2] | 1.43[2] | 87,494,900 | 1,464,800 | 1.70 |
| Southern high-service district, embracing Quincy, the high-service district of Boston, except East Boston, and portions of Milton and Watertown | 50,465,000 | 2,774,300 | 5.82 | 51,902,100 | 1,437,100 | 2.85 | 53,883,600 | 1,981,500 | 3.82 | 54,640,700 | 757,100 | 1.41 | 56,655,900 | 2,015,200 | 3.69 | 56,908,300 | 252,400 | 0.45 |
| Intermediate high-service district, embracing portions of Arlington, Belmont and Watertown | 1,346,900 | 40,000 | 3.06 | 1,328,600 | 18,300[2] | 1.36[2] | 1,293,500 | 35,100[2] | 2.64[2] | 1,469,500 | 176,000 | 13.61 | 1,462,200 | 7,300[2] | 0.50[2] | 1,614,500 | 152,300 | 10.42 |
| Northern high-service district, embracing Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop and the high-service districts of Chelsea, East Boston, Everett, Malden, Medford and Somerville | 13,705,100 | 487,800 | 3.69 | 13,760,200 | 55,100 | 0.40 | 14,221,100 | 460,900 | 3.35 | 14,663,000 | 441,900 | 3.11 | 15,229,600 | 566,600 | 3.86 | 16,245,200 | 1,015,600 | 6.67 |
| Southern extra high-service district, embracing the higher portions of Hyde Park, Milton and West Roxbury | 1,828,900 | 7,300 | .40 | 1,733,300 | 95,600[2] | 5.23[2] | 1,891,900 | 158,600 | 9.15 | 2,136,000 | 244,100 | 12.90 | 2,085,200 | 50,800[2] | 2.38[2] | 2,077,900 | 7,300[2] | 0.35[2] |
| Northern extra high-service district, embracing Lexington, the higher portions of Arlington and Belmont and Winchester (west side)* | 1,986,700 | 173,700 | 9.58 | 1,852,600 | 134,100[2] | 6.75[2] | 2,003,500 | 150,900 | 8.15 | 2,257,400 | 253,900 | 12.67 | 2,109,200 | 148,200[2] | 6.57[2] | 2,326,700 | 217,500 | 10.31 |
| District supplied | 145,303,000 | 6,135,400 | 4.41 | 151,175,300 | 5,872,300 | 4.04 | 157,875,600 | 6,700,300 | 4.43 | 162,449,100 | 4,573,500 | 2.90 | 163,572,300 | 1,123,200 | 0.69 | 166,667,600 | 3,095,300 | 1.89 |
| Brookline and Newton | 10,395,400 | 401,400 | 4.02 | 10,099,600 | 295,800[2] | 2.85[2] | 10,516,800 | 417,200 | 4.13 | 10,852,400 | 335,600 | 3.19 | 10,559,300 | 293,100[2] | 2.70[2] | 11,296,300 | 737,000 | 6.98 |
| Total District | 155,698,400 | 6,536,800 | 4.38 | 161,274,900 | 5,576,500 | 3.58 | 168,392,400 | 7,117,500 | 4.41 | 173,301,500 | 4,909,100 | 2.92 | 174,131,600 | 830,100 | 0.48 | 177,964,200 | 3,832,600 | 2.20 |

[1] Actual averages of Total District Consumption.
[2] Decrease.
* Winchester (west side) service began 1946.

## Table No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1941*

(Platinum Standard)

| Month | Wachusett[1] Reservoir | | | | | | Wachusett Aqueduct Influent | Sudbury Reservoir | | | Framingham Reservoir No. 3 | Lake[1] Cochituate | | | Chestnut Hill Reservoir | | | Spot[1] Pond | Fells Reservoir | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| January | 33 | 24 | 29 | 12 | 12 | – | 13 | 16 | 15 | 16 | – | 17 | 18 | 18 | 16 | – | 14 | – | 15 | 16 | 16 | 16 | 17 |
| February | 32 | 27 | 30 | 10 | 11 | 10 | 15 | 14 | 13 | 15 | – | 20 | 19 | 22 | 16 | – | 14 | – | 14 | 15 | 15 | 15 | 15 |
| March | 28 | 24 | 23 | – | 11 | – | 13 | 16 | 16 | 15 | – | 19 | – | – | 14 | – | 13 | – | 13 | 15 | 15 | 16 | 16 |
| April | 36 | 31 | 29 | 13 | 12 | 13 | 15 | 15 | 15 | 16 | – | 22 | 22 | 23 | 16 | – | 14 | – | 13 | 15 | 15 | 15 | 16 |
| May | 41 | 38 | 26 | 12 | 12 | 12 | 14 | 14 | 15 | 15 | 16 | 17 | 18 | 20 | 15 | – | 14 | – | 13 | 14 | 14 | 14 | 14 |
| June | 34 | 27 | 21 | 11 | 11 | 11 | 13 | 13 | 14 | 13 | 16 | 14 | 15 | 24 | 14 | – | 13 | – | 12 | 14 | 13 | 13 | 13 |
| July | 31 | 26 | 13 | 8 | 9 | 10 | 10 | 10 | 11 | 11 | 11 | 10 | 14 | 30 | 11 | – | 10 | – | 9 | 11 | 11 | 10 | 10 |
| August | 21 | 19 | 11 | 7 | 8 | 8 | 8 | 9 | 9 | 10 | 11 | 9 | 14 | 60 | 9 | – | 8 | – | 8 | 10 | 10 | 9 | 9 |
| September | 17 | 16 | 15 | 7 | 6 | 7 | 7 | 8 | 9 | 9 | 8 | 8 | 13 | 50 | 8 | – | 7 | – | 7 | 9 | 9 | 9 | 8 |
| October | 24 | 16 | 19 | 6 | 7 | 6 | 8 | 8 | 7 | 9 | 7 | 7 | 9 | 83 | 8 | – | 7 | – | 7 | 9 | 9 | 9 | 9 |
| November | 25 | 21 | 11 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 11 | 12 | 64 | 7 | – | 6 | – | 7 | 8 | 8 | 8 | 9 |
| December | 24 | 19 | 16 | – | 7 | – | 9 | 8 | 8 | 8 | 8 | 12 | 12 | 13 | 7 | – | 7 | – | 8 | 9 | 9 | 9 | 11 |
| Mean | 29 | 26 | 20 | 9 | 9 | 9 | 11 | 12 | 12 | 12 | 11 | 14 | 15 | 37 | 12 | – | 11 | – | 11 | 12 | 12 | 12 | 12 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1942*

(Platinum Standard)

| MONTH | WACHUSETT[1] RESERVOIR | | | | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR | | | FRAMINGHAM RESERVOIR No. 3 | LAKE[1] COCHITUATE | | | CHESTNUT HILL RESERVOIR | | | SPOT[1] POND | FELLS RESERVOIR | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| JANUARY | 32 | 24 | 23 | 9 | 8 | 8 | 10 | 9 | 10 | 9 | 9 | 11 | 11 | 12 | 9 | – | 9 | – | 9 | 10 | 10 | 10 | 11 |
| FEBRUARY | 29 | 23 | 23 | 9 | 9 | 9 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 13 | 10 | – | 11 | – | 9 | 11 | 11 | 11 | 13 |
| MARCH | 36 | 31 | 31 | – | 8 | – | 25 | 13 | 13 | 12 | 16 | 15 | – | – | 13 | – | 11 | – | 11 | 12 | 12 | 15 | 17 |
| APRIL | 37 | 32 | 30 | 13 | 11 | – | 15 | 22 | 22 | 21 | 24 | 18 | 17 | 17 | 20 | – | 17 | – | 17 | 19 | 18 | 20 | 25 |
| MAY | 53 | 46 | 40 | 15 | 15 | 15 | 19 | 22 | 23 | 21 | 23 | 16 | 16 | 27 | 20 | – | 20 | – | 19 | 20 | 20 | 19 | 21 |
| JUNE | 73 | 59 | 37 | 13 | 13 | 12 | 16 | 17 | 18 | 18 | 19 | 14 | 14 | 42 | 19 | – | 18 | – | 16 | 18 | 18 | 16 | 17 |
| JULY | 55 | 50 | 37 | 12 | 12 | 12 | 15 | 15 | 15 | 16 | 17 | 12 | 15 | 70 | 18 | – | 16 | – | 14 | 15 | 12 | 14 | 15 |
| AUGUST | 45 | 45 | 21 | 13 | 13 | 13 | 15 | 15 | 14 | 15 | 19 | 11 | 15 | 150 | 18 | – | 14 | – | 13 | 15 | 15 | 14 | 14 |
| SEPTEMBER | 28 | 25 | 14 | 11 | 11 | 11 | 12 | 12 | 13 | 13 | 13 | 9 | 14 | 175 | 13 | – | 12 | – | 11 | 12 | 13 | 12 | 12 |
| OCTOBER | 45 | 32 | 21 | 11 | 11 | 12 | 12 | 12 | 13 | 14 | 13 | 10 | 13 | 171 | 12 | – | 12 | – | 10 | 12 | 12 | 12 | 12 |
| NOVEMBER | 48 | 35 | 20 | 12 | 12 | – | 13 | 12 | 12 | 13 | 13 | 14 | 15 | 93 | 12 | – | 12 | – | 12 | 12 | 12 | 12 | 12 |
| DECEMBER | 43 | 35 | 38 | 11 | 11 | – | 14 | 14 | 14 | 12 | 16 | 17 | – | – | 16 | – | 13 | – | 12 | 13 | 13 | 13 | 16 |
| Mean | 44 | 36 | 28 | 12 | 11 | 11 | 15 | 15 | 15 | 15 | 16 | 14 | 14 | 78 | 15 | – | 14 | – | 13 | 14 | 14 | 14 | 15 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1943*

(Platinum Standard)

| MONTH | WACHUSETT[1] RESERVOIR | | | | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR | | | FRAMINGHAM RESERVOIR No. 3 | LAKE[1] COCHITUATE | | | CHESTNUT HILL RESERVOIR | | | SPOT[1] POND | FELLS RESERVOIR | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| JANUARY | 38 | 27 | 32 | 15 | 11 | 11 | 12 | 15 | – | 18 | 18 | 25 | 18 | 25 | 15 | – | 14 | – | 13 | 15 | 15 | 15 | 16 |
| FEBRUARY | 36 | 26 | 31 | 24 | 15 | 12 | 21 | 15 | 14 | 15 | 17 | 25 | 21 | 27 | 15 | – | 14 | – | 14 | 15 | 15 | 15 | 17 |
| MARCH | 35 | 26 | 29 | 20 | 16 | 14 | 21 | 17 | – | – | 19 | 25 | – | – | 16 | – | 14 | – | 14 | 15 | 15 | 15 | 16 |
| APRIL | 34 | 26 | 26 | 15 | 15 | – | 23 | 20 | 20 | – | 19 | 24 | 23 | 23 | 18 | – | 16 | – | 18 | 17 | 18 | 19 | 24 |
| MAY | 45 | 42 | 41 | 15 | 15 | – | 22 | 21 | 21 | 21 | 23 | 26 | 23 | 24 | 19 | – | 17 | – | 18 | 20 | 19 | 20 | 28 |
| JUNE | 52 | 47 | 41 | 18 | 17 | – | 28 | 26 | 26 | 25 | 26 | 22 | 17 | 60 | 24 | – | 20 | – | 18 | 21 | 20 | 21 | 22 |
| JULY | 33 | 28 | 24 | 17 | 17 | – | 18 | 20 | 22 | 20 | 22 | 18 | 16 | 152 | 24 | – | 20 | – | 11 | 20 | 20 | 20 | 13 |
| AUGUST | 24 | 24 | 19 | 14 | 15 | – | 16 | 15 | 15 | 16 | 16 | 16 | 16 | 106 | 18 | – | 15 | – | 8 | 16 | 16 | 15 | 10 |
| SEPTEMBER | 21 | 18 | 13 | 11 | 12 | – | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 113 | 12 | – | 12 | – | 7 | 12 | 12 | 12 | 11 |
| OCTOBER | 34 | 28 | 12 | 10 | 10 | – | 11 | 10 | 11 | 11 | 11 | 12 | 14 | 101 | 12 | – | 12 | – | 7 | 12 | 12 | 11 | 19 |
| NOVEMBER | 47 | 40 | 22 | 10 | 10 | – | 11 | 11 | 11 | 11 | 11 | 13 | 14 | 66 | 11 | – | 10 | – | 6 | 11 | 11 | 11 | 11 |
| DECEMBER | 33 | 25 | 29 | 9 | 9 | – | 9 | 12 | – | 10 | 12 | 12 | – | – | 12 | – | 11 | – | 6 | 12 | 11 | 11 | 11 |
| Mean | 36 | 30 | 27 | 15 | 14 | 12 | 17 | 16 | 17 | 16 | 18 | 19 | 18 | 70 | 16 | – | 15 | – | 12 | 14 | 15 | 15 | 32 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1944*

(Platinum Standard)

| MONTH | WACHUSETT[1] RESERVOIR | | | | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR | | | FRAMINGHAM RESERVOIR No. 3 | LAKE[1] COCHITUATE | | | CHESTNUT HILL RESERVOIR | | | SPOT[1] POND | FELLS RESERVOIR | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave., Medford, Low Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| JANUARY | 21 | 21 | 20 | 8 | 9 | – | 9 | 10 | 11 | 11 | 11 | 12 | 14 | 16 | 11 | – | 10 | – | 6 | 11 | 11 | 10 | 11 |
| FEBRUARY | 25 | 25 | 26 | 9 | 9 | – | 12 | 10 | 10 | – | 11 | 15 | 16 | 18 | 11 | – | 10 | – | 6 | 11 | 11 | 11 | 12 |
| MARCH | 38 | 33 | 33 | 11 | 11 | – | 14 | 14 | 16 | – | – | 14 | – | – | 16 | – | 13 | – | 6 | 13 | 12 | 15 | 15 |
| APRIL | 37 | 28 | 36 | 10 | 10 | 10 | 24 | 14 | – | – | 21 | 13 | 11 | 11 | 20 | – | 15 | – | 7 | 15 | 14 | 13 | 14 |
| MAY | 48 | 42 | 38 | 13 | 13 | 14 | 17 | 20 | 20 | 19 | 23 | 18 | 14 | 24 | 19 | – | 16 | – | 6 | 17 | 16 | 14 | 15 |
| JUNE | 69 | 50 | 45 | 14 | 13 | 14 | 33 | 18 | 17 | 19 | 19 | 15 | 15 | 33 | 18 | – | 16 | – | 8 | 17 | 16 | 15 | 14 |
| JULY | 44 | 43 | 32 | 14 | 14 | 15 | 17 | 16 | 16 | 15 | 15 | 17 | 15 | 72 | 15 | – | 15 | – | 7 | 15 | 15 | 15 | 15 |
| AUGUST | 24 | 25 | 15 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 16 | 13 | 13 | 99 | 16 | – | 14 | – | 7 | 15 | 15 | 15 | 15 |
| SEPTEMBER | 25 | 23 | 18 | 12 | 12 | 12 | 12 | 12 | 15 | 13 | 14 | 12 | 14 | 79 | 14 | – | 12 | – | 8 | 13 | 13 | 13 | 12 |
| OCTOBER | 37 | 26 | 13 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 62 | 12 | – | 12 | – | 9 | 12 | 12 | 12 | 11 |
| NOVEMBER | 36 | 24 | 20 | 11 | 11 | – | 11 | 12 | 12 | 12 | 12 | 14 | 13 | 38 | 12 | – | 11 | – | 10 | 12 | 12 | 12 | 12 |
| DECEMBER | 36 | 30 | 33 | 11 | 11 | 11 | 14 | 12 | – | 12 | – | 17 | – | – | 12 | – | 11 | – | 10 | 12 | 12 | 12 | 12 |
| Mean | 37 | 31 | 27 | 12 | 12 | 13 | 16 | 14 | 14 | 14 | 15 | 14 | 14 | 45 | 15 | – | 13 | – | 8 | 14 | 13 | 13 | 13 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1945*

(Platinum Standard)

| MONTH | WACHUSETT[1] RESERVOIR | | | | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR | | | FRAMINGHAM RESERVOIR No. 3 | LAKE[1] COCHITUATE | | | CHESTNUT HILL RESERVOIR | | | SPOT[1] POND | FELLS RESERVOIR | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower End of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Mid-depth near Dam* | *Surface near Gate House* | *Mid-depth near Gate House* | *Bottom near Gate House* | *Sudbury Aqueduct Influent* | *Cochituate Aqueduct Influent* | *Effluent Gate House No. 2* | *Mid-depth near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave., Medford, Low Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| JANUARY | 35 | 32 | 30 | 9 | 10 | – | 15 | 14 | – | – | – | 24 | – | – | 14 | – | 13 | – | 9 | 14 | 14 | 12 | 12 |
| FEBRUARY | 28 | 25 | 24 | – | – | – | 11 | 13 | – | – | – | 31 | – | – | 14 | – | 13 | – | 10 | 14 | 14 | 12 | 13 |
| MARCH | 34 | 27 | 38 | 14 | 14 | 12 | 18 | 13 | 17 | – | – | 34 | – | – | 14 | – | 12 | – | 11 | 14 | 13 | 13 | 13 |
| APRIL | 49 | 36 | 39 | 15 | 15 | 15 | 18 | 17 | 19 | 18 | 20 | 25 | 24 | 24 | 17 | – | 14 | – | 11 | 17 | 15 | 17 | 14 |
| MAY | 47 | 39 | 42 | 16 | 16 | 17 | 52 | 20 | 20 | – | 23 | 27 | 23 | 25 | 20 | – | 17 | – | 11 | 19 | 17 | 16 | 15 |
| JUNE | 58 | 51 | 43 | 18 | 18 | 17 | 33 | 24 | 26 | 23 | 25 | 22 | 22 | 35 | 23 | – | 20 | – | 14 | 21 | 20 | 18 | 18 |
| JULY | 71 | 59 | 20 | 17 | 16 | 17 | 43 | 33 | 31 | 28 | 26 | 25 | 19 | 75 | 26 | – | 22 | – | 14 | 26 | 23 | 17 | 17 |
| AUGUST | 63 | 51 | 20 | 16 | 17 | 16 | 18 | 25 | 22 | 27 | 21 | 18 | 17 | 124 | 27 | – | 24 | – | 14 | 25 | 24 | 16 | 16 |
| SEPTEMBER | 44 | 37 | 18 | 15 | 15 | 16 | 17 | 18 | 20 | 20 | 22 | 17 | 18 | 84 | 22 | – | 21 | – | 13 | 20 | 21 | 16 | 15 |
| OCTOBER | 41 | 31 | 14 | 13 | 13 | 13 | 13 | 15 | 15 | 16 | 15 | 14 | 15 | 82 | 16 | – | 16 | – | 12 | 16 | 16 | 14 | 14 |
| NOVEMBER | 45 | 34 | 13 | 10 | 10 | 11 | 15 | 12 | 13 | 13 | 14 | 15 | 15 | 64 | 13 | – | 12 | – | 10 | 13 | 12 | 12 | 12 |
| DECEMBER | 44 | 33 | 37 | 10 | 10 | 10 | 44 | 14 | – | – | – | 16 | – | – | 14 | – | 12 | – | 8 | 13 | 13 | 11 | 11 |
| Mean | 47 | 38 | 28 | 14 | 14 | 14 | 25 | 18 | 20 | 21 | 21 | 22 | 19 | 64 | 18 | – | 16 | – | 11 | 18 | 17 | 15 | 14 |

[1] Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 17. — *Colors of Water at Various Places on the Metropolitan Water Works in 1946*

(Platinum Standard)

| MONTH | WACHUSETT[1] RESERVOIR | | | | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR | | | FRAMINGHAM RESERVOIR No. 3 | NORUMBEGA RESERVOIR | PRESSURE AQUEDUCT | WESTON RESERVOIR | CHESTNUT HILL RESERVOIR | | SPOT POND | FELLS RESERVOIR | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Quinapoxet River Influent* | *Stillwater River Influent* | *Worcester St. Bridge* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Lower end of Open Channel* | *Surface near Dam* | *Mid-depth near Dam* | *Bottom near Dam* | *Surface near Dam* | *Surface near Gate House* | *Well* | *Surface near Screen Chamber* | *Sudbury Aqueduct Influent* | *Effluent Gate House No. 2* | *Surface near East Gate House* | *Effluent Gate House* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave. Medford, High Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| JANUARY | 33 | 31 | 31 | 11 | 11 | 11 | 21 | 20 | — | 20 | 18 | 10 | 11 | 18 | 16 | 14 | 5 | 6 | 18 | 15 | 12 | 11 |
| FEBRUARY | 33 | 23 | 29 | 13 | 13 | 11 | 17 | 19 | — | 21 | 22 | 12 | 12 | 12 | 20 | 18 | 6 | 10 | 12 | 18 | 14 | 12 |
| MARCH | 30 | 25 | 25 | 12 | 13 | 12 | 19 | 19 | — | 19 | 20 | 11 | 11 | 19 | 19 | 18 | 4 | 9 | 19 | 18 | 12 | 12 |
| APRIL | 35 | 29 | 24 | 14 | 14 | 14 | 19 | 21 | 22 | 22 | 21 | 12 | 12 | 20 | 19 | 17 | 7 | 11 | 19 | 16 | 13 | 13 |
| MAY | 52 | 41 | 30 | 14 | 14 | 14 | 22 | 22 | 21 | 22 | 22 | 12 | 14 | 21 | 21 | 19 | 8 | 12 | 20 | 19 | 13 | 14 |
| JUNE | 54 | 43 | 41 | 14 | 14 | 15 | 27 | 24 | 25 | 22 | 24 | 12 | 15 | 21 | 22 | 21 | 8 | 11 | 18 | 21 | 16 | 15 |
| JULY | 28 | 21 | 14 | 11 | 12 | 12 | 12 | 19 | — | 19 | 17 | 7 | 10 | 18 | 20 | 18 | 6 | 7 | 18 | 17 | 11 | 11 |
| AUGUST | 47 | 23 | 15 | 11 | 11 | 11 | 13 | 13 | 14 | 13 | 15 | 6 | 9 | 14 | 15 | 15 | 6 | 7 | 14 | 14 | 10 | 10 |
| SEPTEMBER | 37 | 14 | 9 | 9 | 9 | 10 | 11 | 11 | 12 | 12 | 11 | 6 | 8 | 12 | 13 | 12 | 6 | 6 | 13 | 14 | 11 | 11 |
| OCTOBER | 57 | 18 | 13 | 11 | 12 | 11 | 11 | 11 | 13 | 12 | 17 | 8 | 8 | 12 | 14 | 14 | 7 | 6 | 13 | 15 | 9 | 9 |
| NOVEMBER | 47 | 27 | 13 | 11 | 11 | 12 | 12 | 13 | 14 | 15 | 16 | 8 | 9 | 12 | 15 | 13 | 7 | 7 | 13 | 13 | 10 | 10 |
| DECEMBER | 37 | 26 | 21 | 12 | 9 | 8 | 13 | 14 | 12 | 14 | 16 | 11 | 11 | 12 | 15 | 13 | 10 | 10 | 13 | 13 | 12 | 12 |
| Mean | 41 | 27 | 22 | 12 | 12 | 12 | 16 | 17 | 17 | 18 | 18 | 10 | 11 | 16 | 17 | 16 | 7 | 9 | 16 | 16 | 12 | 12 |

[1]Mid-depth and bottom colors are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1941*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.
(Degrees Fahrenheit)

| Month | Wachusett[1] Reservoir Depth at Place of Observation Near Dam 107 Feet | | | Wachusett Aqueduct Influent | Sudbury[1] Reservoir Depth at Place of Observation Near Dam 54.5 Feet | | | Framingham[1] Reservoir No. 3 Depth at Place of Observation Near Dam 20.5 Feet | | | Lake[1] Cochituate Depth at Place of Observation Near Gate House 62.0 Feet | | | Chestnut Hill Reservoir | Spot Pond[1] Depth at Place of Observation Near East Gate House 28.0 Feet | | | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| January | 38.7 | 37.9 | | 32.9 | 34.6 | 36.3 | 37.5 | 37.3 | – | – | 35.3 | 36.6 | 37.6 | 36.1 | – | – | 36.9 | 42.7 | 40.1 | 40.6 | 41.7 |
| February | – | 37.7 | 36.6 | 34.6 | 36.6 | 36.5 | 37.3 | 38.0 | – | – | 36.7 | 37.8 | 38.1 | 37.3 | – | – | 37.0 | 39.5 | 39.7 | 38.9 | 39.9 |
| March | – | 39.2 | | 35.8 | 35.4 | 34.0 | 37.2 | 38.0 | – | – | 37.4 | – | – | 37.2 | – | – | 38.0 | 40.7 | 39.0 | 39.9 | 40.9 |
| April | – | 43.7 | 48.7 | 41.9 | 46.8 | 50.5 | 52.0 | – | 50.0 | – | 48.2 | 48.3 | 47.4 | 48.8 | – | – | 47.3 | 48.6 | 48.2 | 48.1 | 45.0 |
| May | 55.9 | 53.7 | 52.0 | 54.3 | 60.6 | 57.8 | 58.0 | 61.0 | 60.3 | 59.0 | 59.1 | 52.6 | 49.5 | 60.1 | – | – | 57.0 | 59.6 | 60.0 | 59.4 | 53.7 |
| June | 65.3 | 63.4 | 57.8 | 57.8 | 66.5 | 63.5 | 63.8 | 68.9 | 66.0 | 64.5 | 68.1 | 56.4 | 49.9 | 66.5 | – | – | 65.3 | 66.5 | 67.5 | 65.3 | 59.4 |
| July | 74.5 | 63.6 | 60.0 | 67.5 | 75.5 | 72.3 | 70.8 | 76.4 | 75.7 | 75.4 | 76.3 | 59.3 | 51.2 | 75.0 | – | – | 72.5 | 75.9 | 75.1 | 72.9 | 66.6 |
| August | 73.2 | 63.4 | 58.1 | 68.0 | 72.4 | 70.0 | 71.0 | 72.8 | 72.6 | 72.1 | 74.2 | 58.5 | 49.0 | 73.5 | – | – | 73.3 | 74.0 | 74.8 | 73.4 | 67.0 |
| September | 67.9 | 64.0 | 61.3 | 65.2 | 69.2 | 68.8 | 68.5 | 68.4 | 69.3 | 68.6 | 69.0 | 60.3 | 53.1 | 69.0 | – | – | 69.0 | 70.4 | 70.8 | 70.5 | 66.2 |
| October | 60.2 | 58.1 | 57.7 | 57.0 | 60.5 | 61.5 | 57.5 | 54.3 | 58.0 | 57.8 | 57.7 | 57.1 | 52.2 | 60.0 | 55.5 | – | 61.0 | 62.9 | 62.3 | 63.2 | 61.9 |
| November | 51.6 | 50.3 | 51.4 | 48.8 | 49.0 | 49.0 | 49.0 | 47.5 | – | 46.3 | 50.7 | 51.8 | 48.1 | 49.6 | 48.9 | – | 49.8 | 53.8 | 52.8 | 54.8 | 55.3 |
| December | – | 44.5 | – | 39.2 | 39.3 | – | 35.0 | 40.5 | 36.3 | 41.3 | 39.9 | 44.1 | 42.9 | 38.6 | 39.4 | – | 39.0 | 43.9 | 43.2 | 46.5 | 48.0 |
| Mean | 60.9 | 51.6 | 53.7 | 50.3 | 53.9 | 54.6 | 53.1 | 54.8 | 61.0 | 60.6 | 54.4 | 51.2 | 47.2 | 54.3 | 47.9 | – | 53.8 | 56.5 | 56.1 | 56.1 | 53.8 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1942*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| Month | Wachusett[1] Reservoir Depth at Place of Observation Near Dam 107 Feet | | | Wachusett Aqueduct Influent | Sudbury[1] Reservoir Depth at Place of Observation Near Dam 54.5 Feet | | | Framingham[1] Reservoir No. 3 Depth at Place of Observation Near Dam 20.5 Feet | | | Lake[1] Cochituate Depth at Place of Observation Near Gate House 62.0 Feet | | | Chestnut Hill Reservoir | Spot Pond[1] Depth at Place of Observation Near East Gate House 28.0 Feet | | | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| January | – | 38.9 | 35.7 | 36.3 | 35.1 | 36.5 | 36.5 | 36.0 | 35.5 | 37.0 | 36.0 | 37.2 | 37.6 | 36.2 | 36.0 | – | 36.1 | 39.4 | 39.0 | 41.1 | 41.5 |
| February | 36.5 | 39.8 | – | 36.1 | 36.0 | 37.8 | 37.5 | 37.3 | 37.9 | 38.3 | 38.5 | 38.8 | 39.3 | 37.3 | 35.8 | – | 36.8 | 40.3 | 39.2 | 40.7 | 42.1 |
| March | – | 37.0 | – | 40.8 | 39.7 | – | – | 37.0 | 40.5 | – | 40.0 | – | – | 40.1 | 40.3 | – | 39.6 | 43.5 | 42.3 | 43.6 | 42.4 |
| April | 45.4 | 42.2 | – | 44.0 | 47.3 | 47.0 | 48.5 | 55.0 | 49.4 | 53.0 | 48.2 | 46.6 | 45.9 | 49.2 | 47.5 | – | 46.5 | 50.6 | 50.0 | 50.7 | 46.6 |
| May | 62.2 | 55.0 | 52.6 | 53.6 | 62.5 | 59.0 | 60.3 | 62.3 | 61.0 | 61.5 | 62.2 | 50.7 | 48.8 | 62.0 | 60.0 | – | 59.5 | 60.5 | 61.5 | 59.9 | 54.3 |
| June | 69.4 | 60.4 | 65.6 | 59.2 | 70.3 | 66.5 | 64.5 | 69.6 | 68.8 | 68.3 | 72.2 | 53.2 | 49.7 | 70.3 | 68.9 | – | 67.1 | 68.8 | 69.9 | 67.6 | 63.5 |
| July | 74.2 | 64.9 | 66.1 | 65.6 | 75.8 | 72.5 | 69.0 | 74.4 | 74.0 | 72.8 | 75.2 | 54.2 | 48.4 | 75.9 | 74.1 | – | 72.3 | 74.0 | 74.8 | 72.1 | 67.4 |
| August | 74.2 | 63.0 | 60.4 | 66.1 | 73.9 | 72.0 | 71.8 | 73.3 | 73.0 | 72.3 | 74.6 | 54.4 | 48.1 | 74.8 | 74.3 | – | 73.1 | 74.6 | 75.8 | 72.2 | 69.5 |
| September | 68.6 | 60.2 | 57.4 | 62.3 | 69.0 | 71.0 | 67.0 | 67.8 | 67.6 | 67.2 | 69.8 | 53.2 | 47.1 | 69.9 | 68.9 | – | 69.0 | 69.9 | 71.3 | 70.2 | 67.7 |
| October | 59.1 | 55.2 | 53.3 | 57.5 | 59.1 | 61.5 | 59.8 | 56.5 | 56.8 | 56.8 | 57.8 | 55.6 | 46.7 | 60.0 | 59.4 | – | 60.1 | 62.8 | 63.3 | 64.3 | 61.2 |
| November | 46.6 | 48.4 | – | 46.6 | 49.1 | 50.0 | 47.0 | 48.5 | 45.5 | 46.4 | 49.8 | 49.5 | 48.8 | 52.8 | 48.1 | – | 49.6 | 52.7 | 53.1 | 55.5 | 53.3 |
| December | 38.0 | 38.0 | – | 38.5 | 36.7 | 37.7 | 36.8 | 44.0 | 36.3 | – | 35.1 | – | – | 37.4 | 37.3 | – | 37.7 | 41.4 | 41.4 | 45.1 | 44.3 |
| Mean | 57.4 | 50.3 | 55.9 | 50.6 | 54.5 | 55.6 | 54.4 | 55.1 | 53.9 | 57.4 | 55.0 | 49.3 | 46.0 | 55.5 | 54.2 | – | 54.0 | 56.5 | 56.8 | 56.9 | 54.5 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE NO. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1943*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| MONTH | WACHUSETT[1] RESERVOIR DEPTH AT PLACE OF OBSERVATION NEAR DAM 107 FEET | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR DEPTH AT PLACE OF OBSERVATION NEAR DAM 54.5 FEET | | | FRAMINGHAM[1] RESERVOIR NO. 3 DEPTH AT PLACE OF OBSERVATION NEAR DAM 20.5 FEET | | | LAKE[1] COCHITUATE DEPTH AT PLACE OF OBSERVATION NEAR GATE HOUSE 62.0 FEET | | | CHESTNUT HILL RESERVOIR | SPOT POND[1] DEPTH AT PLACE OF OBSERVATION NEAR EAST GATE HOUSE 28.0 FEET | | | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Glenwood Yard, Medford, Low Service* | *Tap at Glenwood Yard, Medford, High Service* |
| JANUARY | 34.2 | 35.2 | 36.9 | 36.7 | 34.8 | – | 36.7 | 35.7 | 36.4 | 37.3 | 35.4 | 38.1 | 38.1 | 37.2 | 35.2 | – | 36.4 | 39.9 | 39.8 | 40.6 | 41.6 |
| FEBRUARY | 34.2 | 35.6 | 37.8 | 35.4 | 33.5 | 34.3 | 36.0 | 35.4 | 35.9 | 37.3 | 34.6 | 36.2 | 38.1 | 36.6 | 35.5 | – | 36.4 | 39.2 | 39.2 | 39.6 | 41.4 |
| MARCH | 35.1 | 36.4 | 37.5 | 35.5 | 37.0 | – | – | 38.0 | 39.0 | 38.7 | 38.3 | – | – | 38.3 | 37.5 | – | 37.4 | 40.7 | 41.3 | 40.3 | 40.9 |
| APRIL | 38.4 | 38.2 | – | 40.3 | 42.3 | 48.5 | – | 43.2 | 45.3 | 45.0 | 42.2 | 45.8 | 43.4 | 44.6 | 43.5 | – | 42.4 | 46.0 | 45.6 | 46.0 | 43.5 |
| MAY | 52.1 | 47.9 | – | 47.3 | 56.3 | 55.3 | 51.3 | 57.4 | 56.6 | 56.0 | 55.4 | 50.6 | 47.3 | 56.8 | 55.1 | – | 53.6 | 58.1 | 56.6 | 54.4 | 50.5 |
| JUNE | 67.8 | 54.2 | – | 61.1 | 72.1 | 66.5 | 62.8 | 72.3 | 71.2 | 65.8 | 69.7 | 51.0 | 48.0 | 70.2 | 69.7 | – | 66.7 | 69.1 | 70.4 | 67.0 | 60.6 |
| JULY | 76.9 | 55.5 | – | 67.1 | 76.8 | 72.8 | 72.5 | 77.1 | 77.0 | 74.0 | 76.8 | 51.6 | 48.4 | 75.7 | 76.1 | – | 72.8 | 74.9 | 76.1 | 74.1 | 68.0 |
| AUGUST | 74.5 | 57.9 | – | 65.9 | 74.9 | 73.1 | 73.0 | 74.9 | 75.0 | 74.0 | 74.4 | 52.8 | 48.9 | 74.9 | 73.3 | – | 69.6 | 75.3 | 76.0 | 72.2 | 68.4 |
| SEPTEMBER | 65.8 | 62.2 | – | 61.2 | 68.8 | 68.5 | 67.3 | 67.0 | 67.3 | 67.3 | 67.3 | 55.0 | 50.5 | 68.2 | 65.1 | – | 66.1 | 70.1 | 69.8 | 68.4 | 68.6 |
| OCTOBER | 56.8 | 55.5 | – | 54.4 | 58.5 | 60.5 | 56.0 | 55.8 | 56.6 | 56.6 | 56.9 | 53.5 | 50.1 | 58.2 | 57.3 | – | 57.3 | 60.8 | 61.8 | 62.6 | 62.7 |
| NOVEMBER | 48.2 | 48.3 | – | 47.9 | 48.6 | 50.0 | 49.0 | 44.8 | 45.4 | 45.3 | 49.1 | 49.1 | 48.1 | 47.3 | 47.9 | – | 47.2 | 52.1 | 52.1 | 53.4 | 56.4 |
| DECEMBER | 36.7 | 36.9 | – | 35.7 | 35.9 | – | 42.0 | 35.3 | 37.0 | 38.0 | 37.8 | – | – | 36.5 | 41.0 | – | 36.0 | 41.8 | 41.5 | 43.3 | 47.2 |
| Mean | 51.7 | 47.0 | 37.2 | 59.0 | 53.3 | 58.8 | 54.7 | 53.1 | 53.6 | 52.9 | 53.2 | 48.4 | 47.0 | 53.7 | 53.1 | – | 51.8 | 55.7 | 55.9 | 55.2 | 54.2 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1944*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| MONTH | WACHUSETT[1] RESERVOIR DEPTH AT PLACE AT OBSERVATION NEAR DAM 107 FEET | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR DEPTH AT PLACE AT OBSERVATION NEAR DAM 54.5 FEET | | | FRAMINGHAM[1] RESERVOIR No. 3 DEPTH AT PLACE AT OBSERVATION NEAR DAM 20.5 FEET | | | LAKE[1] COCHITUATE DEPTH AT PLACE OF OBSERVATION NEAR GATE HOUSE 62.0 FEET | | | CHESTNUT HILL RESERVOIR | SPOT POND[1] DEPTH AT PLACE OF OBSERVATION NEAR EAST GATE HOUSE 28.0 FEET | | | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave., Medford, Low Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| JANUARY | 35.4 | 35.9 | – | 34.7 | 35.4 | 36.0 | 38.5 | 37.6 | 38.0 | 38.4 | 37.6 | 38.2 | 38.8 | 38.0 | 36.3 | – | 37.8 | 41.1 | 40.6 | 41.3 | 42.3 |
| FEBRUARY | 36.8 | 37.0 | – | 37.7 | 36.8 | 37.8 | – | 38.8 | 39.0 | 38.8 | 39.7 | 39.1 | 39.2 | 37.9 | 36.8 | – | 39.1 | 42.0 | 40.3 | 40.4 | 41.2 |
| MARCH | 36.9 | 37.1 | – | 36.9 | 40.3 | 39.0 | – | 37.3 | – | 37.5 | 40.3 | – | – | 37.9 | 38.8 | – | 39.5 | 42.6 | 40.7 | 41.0 | 41.8 |
| APRIL | 40.9 | 40.8 | 40.1 | 39.7 | 43.9 | | – | 44.6 | 45.5 | 42.0 | 45.4 | 45.5 | 45.1 | 45.5 | 44.5 | – | 43.8 | 46.8 | 46.4 | 44.8 | 45.6 |
| MAY | 59.5 | 49.2 | 55.6 | 56.7 | 61.6 | 59.0 | 55.8 | 63.0 | 62.4 | 59.6 | 62.8 | 49.6 | 47.5 | 60.6 | 60.2 | – | 54.6 | 59.2 | 61.7 | 55.0 | 57.1 |
| JUNE | 67.3 | 60.8 | 56.4 | 61.8 | 69.3 | 68.0 | 62.5 | 69.8 | 69.3 | 67.0 | 69.4 | 52.6 | 49.8 | 67.5 | 66.6 | – | 63.0 | 68.8 | 69.5 | 63.4 | 66.8 |
| JULY | 74.9 | 65.3 | 56.3 | 68.3 | 76.0 | 72.5 | 67.0 | 77.8 | 76.5 | 73.3 | 77.5 | 53.7 | 51.4 | 74.9 | 73.0 | – | 67.6 | 74.8 | 75.7 | 68.0 | 69.2 |
| AUGUST | 74.6 | 65.3 | 61.3 | 70.8 | 76.6 | 75.5 | 71.7 | 76.8 | 76.4 | 75.0 | 77.3 | 53.6 | 50.3 | 76.0 | 75.1 | – | 70.8 | 76.6 | 77.4 | 70.9 | 73.2 |
| SEPTEMBER | 68.6 | 64.1 | 52.0 | 62.2 | 69.7 | 72.0 | 67.5 | 70.3 | 70.3 | 69.5 | 69.9 | 56.4 | 51.1 | 69.9 | 67.3 | – | 66.6 | 71.5 | 72.5 | 69.4 | 70.4 |
| OCTOBER | 59.1 | 58.0 | 52.5 | 55.5 | 57.6 | 57.7 | 58.0 | 56.8 | 56.9 | 56.7 | 57.5 | 53.6 | 49.9 | 58.4 | 59.3 | – | 59.5 | 61.0 | 61.8 | 63.3 | 62.6 |
| NOVEMBER | 50.5 | 48.8 | – | 47.1 | 45.3 | 45.3 | 47.0 | 44.3 | 45.0 | 44.0 | 47.6 | 48.3 | 48.2 | 45.7 | 46.3 | – | 49.6 | 49.4 | 50.3 | 53.6 | 53.2 |
| DECEMBER | 38.6 | 39.4 | 38.0 | 38.6 | 37.1 | – | 38.5 | 34.8 | – | – | 39.7 | – | – | 36.4 | 38.5 | – | 40.4 | 41.8 | 41.3 | 45.4 | 45.3 |
| Mean | 53.6 | 50.1 | 51.5 | 50.8 | 54.2 | 56.3 | 56.2 | 54.3 | 58.8 | 54.8 | 55.4 | 49.1 | 47.1 | 54.1 | 53.6 | – | 52.7 | 56.3 | 56.5 | 54.7 | 55.7 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1945*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| Month | Wachusett[1] Reservoir Depth at Place of Observation Near Dam 107 Feet | | | Wachusett Aqueduct Influent | Sudbury[1] Reservoir Depth at Place of Observation Near Dam 54.5 Feet | | | Framingham[1] Reservoir No. 3 Depth at Place of Observation Near Dam 20.5 Feet | | | Lake[1] Cochituate Depth at Place of Observation Near Gate House 62.0 Feet | | | Chestnut Hill Reservoir | Spot Pond[1] Depth at Place of Observation Near East Gate House 28.0 Feet | | | Southern Service | | Northern Service | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182, Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave., Medford, Low Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| January | 34.0 | 35.5 | 36.0 | 34.2 | 35.0 | – | – | 35.0 | – | – | 36.9 | – | – | 36.1 | 34.8 | – | 38.0 | 38.9 | 40.9 | 41.6 | 48.4 |
| February | 34.5 | 36.5 | 38.0 | 35.3 | 34.0 | – | – | 34.3 | – | – | 36.8 | – | – | 36.2 | 36.5 | – | 38.3 | 40.1 | 39.4 | 40.6 | 41.3 |
| March | 36.2 | 36.8 | 37.5 | 38.1 | 38.3 | 40.0 | – | 38.5 | – | – | 39.7 | – | – | 40.3 | 38.0 | – | 39.8 | 44.8 | 43.0 | 41.2 | 41.5 |
| April | 47.9 | 46.4 | 46.0 | 47.4 | 52.0 | 51.3 | 51.0 | 53.4 | 53.0 | 52.5 | 51.6 | 50.3 | 49.0 | 52.0 | 50.8 | – | 49.4 | 56.4 | 55.7 | 50.4 | 53.4 |
| May | 55.9 | 51.5 | 52.3 | 53.5 | 56.3 | 55.8 | – | 57.8 | 56.7 | 56.0 | 57.8 | 52.9 | 49.8 | 57.7 | 55.3 | – | 54.0 | 59.4 | 59.5 | 55.2 | 54.6 |
| June | 67.3 | 58.3 | 53.5 | 61.9 | 68.4 | 66.0 | 64.5 | 67.3 | 69.7 | 68.3 | 68.7 | 59.8 | 53.3 | 66.1 | 64.3 | – | 60.3 | 66.1 | 68.0 | 61.6 | 62.5 |
| July | 73.7 | 63.0 | 57.8 | 64.2 | 76.0 | 71.0 | 67.8 | 75.8 | 75.0 | 70.0 | 76.8 | 57.1 | 53.3 | 74.0 | 73.7 | – | 69.2 | 73.9 | 75.0 | 67.4 | 66.8 |
| August | 73.9 | 71.3 | 57.8 | 68.2 | 73.6 | 70.0 | 71.0 | 73.7 | 72.7 | 72.0 | 72.8 | 57.0 | 53.8 | 72.6 | 72.3 | – | 69.5 | 73.2 | 74.2 | 68.9 | 68.4 |
| September | 69.1 | 61.3 | 59.2 | 59.4 | 70.3 | 68.8 | 69.0 | 70.0 | 68.8 | 70.3 | 70.1 | 57.2 | 53.1 | 69.1 | 69.1 | – | 68.1 | 70.5 | 72.7 | 69.5 | 66.9 |
| October | 58.9 | 59.4 | 56.9 | 57.7 | 59.1 | 59.8 | 58.5 | 58.0 | 57.8 | 57.5 | 59.0 | 56.1 | 52.2 | 58.7 | 60.4 | – | 60.2 | 62.4 | 61.6 | 62.3 | 62.5 |
| November | 51.4 | 51.6 | 49.9 | 49.0 | 40.1 | 50.3 | 49.0 | 48.1 | 50.0 | – | 50.8 | 52.0 | 50.6 | 49.5 | 49.1 | – | 43.5 | 54.4 | 54.7 | 55.1 | 54.6 |
| December | 39.3 | 42.7 | 38.5 | 37.5 | 35.5 | – | – | 35.7 | – | – | 40.1 | – | – | 37.7 | 39.0 | – | 39.7 | 44.8 | 46.4 | 49.0 | 48.4 |
| Mean | 53.5 | 51.2 | 48.6 | 50.5 | 53.2 | 59.2 | 61.5 | 54.0 | 63.0 | 63.8 | 55.1 | 55.3 | 51.9 | 54.2 | 53.6 | – | 52.5 | 57.1 | 57.6 | 55.2 | 55.4 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

## TABLE No. 18. — *Temperatures of Water at Various Places on the Metropolitan Water Works in 1946*

The temperatures are taken at the same places and times as the samples for microscopical examination, the depth at place of observation from high-water mark.

(Degrees Fahrenheit)

| MONTH | WACHUSETT[1] RESERVOIR DEPTH AT PLACE OF OBSERVATION NEAR DAM 107 FEET | | | WACHUSETT AQUEDUCT INFLUENT | SUDBURY[1] RESERVOIR DEPTH AT PLACE OF OBSERVATION NEAR DAM 54.5 FEET | | | FRAMINGHAM[1] RESERVOIR NO. 3 DEPTH AT PLACE OF OBSERVATION NEAR DAM 20.5 FEET | | | NORUMBEGA RESERVOIR | PRESSURE AQUEDUCT | WESTON RESERVOIR | CHESTNUT HILL RESERVOIR | SPOT POND[1] DEPTH AT PLACE OF OBSERVATION NEAR EAST GATE HOUSE 28.0 FEET | | | SOUTHERN SERVICE | | NORTHERN SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Surface* | *Mid-depth* | *Bottom* | *Lower End of Open Channel* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Mid-depth* | *Bottom* | *Surface* | *Well* | *Surface near Screen Chamber* | *Effluent Gate House No. 2* | *Surface* | *Mid-depth* | *Bottom* | *Tap at 182 Boylston St., Boston, Low Service* | *Tap at 20 Somerset St., Boston, High Service* | *Tap at Fire Sta., Riverside Ave., Medford, High Service* | *Tap at Fire Sta., Harvard Ave., Medford, High Service* |
| JANUARY | 34.2 | 34.5 | 35.3 | 34.5 | 36.0 | – | 37.0 | 36.8 | – | 37.0 | 35.3 | 35.9 | 35.9 | 36.8 | 36.6 | – | 37.6 | 41.2 | 43.0 | 41.8 | 40.0 |
| FEBRUARY | 43.3 | 35.9 | 37.1 | 33.1 | 34.5 | – | 36.7 | 37.7 | – | 37.0 | 35.0 | 36.5 | 36.6 | 36.2 | 36.2 | – | 37.5 | 49.8 | 41.4 | 39.7 | 40.0 |
| MARCH | 37.6 | 38.4 | 38.2 | 38.1 | 40.0 | – | 41.5 | 41.1 | – | 40.7 | 40.5 | 40.3 | 41.1 | 42.0 | 38.5 | – | 40.1 | 44.5 | 44.5 | 42.5 | 41.0 |
| APRIL | 45.8 | 45.7 | 43.0 | 43.0 | 47.2 | 49.0 | 40.0 | 48.6 | – | 48.0 | 48.5 | 44.5 | 48.4 | 49.2 | 46.7 | – | 48.1 | 49.4 | 51.4 | 48.4 | 47.4 |
| MAY | 52.0 | 52.5 | 49.9 | 47.9 | 54.1 | 54.5 | 52.0 | 55.1 | 59.0 | 53.0 | 56.8 | 51.5 | 55.2 | 57.2 | 51.8 | – | 51.8 | 58.8 | 58.9 | 54.1 | 54.0 |
| JUNE | 66.2 | 59.7 | 58.4 | 56.2 | 67.7 | 65.0 | 58.1 | 68.5 | 67.2 | 65.5 | 66.9 | 58.1 | 64.8 | 67.1 | 62.0 | – | 62.0 | 67.4 | 68.1 | 59.4 | 58.5 |
| JULY | 73.4 | 66.0 | 60.0 | 65.1 | 75.1 | – | 69.6 | 75.9 | 74.3 | 72.0 | 75.0 | 63.1 | 74.1 | 71.1 | 68.3 | – | 67.3 | 71.8 | 75.5 | 64.9 | 63.8 |
| AUGUST | 70.9 | 62.1 | 59.5 | 61.2 | 72.0 | 68.7 | 67.5 | 72.2 | 72.2 | 70.5 | 71.9 | 64.8 | 72.0 | 71.6 | 71.5 | – | 68.2 | 72.7 | 73.7 | 63.9 | 65.7 |
| SEPTEMBER | 67.5 | 67.2 | 58.9 | 62.9 | 69.0 | 68.0 | 67.5 | 69.6 | 69.5 | 69.0 | 68.3 | 64.9 | 68.6 | 69.1 | 67.7 | – | 66.9 | 70.0 | 70.8 | 65.9 | 66.4 |
| OCTOBER | 66.4 | 61.7 | 61.9 | 57.3 | 60.0 | 61.6 | 60.0 | 63.3 | 63.2 | 62.8 | 62.6 | 61.5 | 64.9 | 62.7 | 61.4 | – | 62.1 | 67.0 | 65.9 | 62.6 | 63.8 |
| NOVEMBER | 50.1 | 53.0 | 55.2 | 52.0 | 42.4 | 55.0 | 50.5 | 50.5 | 49.0 | 52.0 | 51.6 | 52.7 | 54.5 | 52.7 | 53.2 | – | 53.5 | 55.6 | 58.4 | 57.1 | 57.5 |
| DECEMBER | 41.0 | 44.0 | 37.6 | 40.3 | 39.5 | 38.5 | 40.1 | 37.2 | – | 33.0 | 38.0 | 42.2 | 39.0 | 39.1 | 44.9 | – | 45.8 | 48.1 | 46.0 | 45.7 | 46.7 |
| Mean | 54.0 | 51.7 | 49.6 | 49.3 | 53.1 | 57.5 | 51.7 | 54.7 | 64.9 | 53.4 | 54.2 | 51.3 | 54.6 | 54.6 | 53.2 | – | 53.4 | 58.0 | 58.1 | 53.8 | 53.7 |

[1] Mid-depth and bottom temperatures are averages of bi-weekly determinations, all others are averages of weekly determinations.

TABLE NO. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1941*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1940 (feet) | 130,179 | 17,634 | 13,486 | 251,146 | 12,218 | 6,887 | 7,274 | 75,403 | 78,497 | 101,638 | 153,486 | 80,177 | 26 | 30,639 | 724 | 1,971 | 1,210 | 58 | 962,653 |
| Gate Valves in same | 22 | 2 | 5 | 70 | 3 | 3 | – | 82 | 53 | 73 | 109 | 158 | 1 | 177 | 22 | 34 | 28 | 2 | 844 |
| Air Valves in same | 190 | 9 | 12 | 187 | 12 | 5 | 6 | 71 | 46 | 61 | 101 | 43 | – | 14 | 1 | – | – | – | 758 |
| Length laid or relaid during 1941 (feet) | – | – | – | 4,283 | – | – | – | 59 | – | 894 | – | 667 | – | – | – | 7 | 53 | – | 5,963 |
| Gate Valves in same | – | – | – | 2 | – | – | – | – | – | 2 | – | – | – | – | – | 1 | – | – | 5 |
| Air Valves in same | – | – | – | 8 | – | – | – | – | – | 1 | – | 2 | – | – | – | – | – | – | 11 |
| Length abandoned during 1941 (feet) | – | – | – | – | – | – | – | 39 | – | 10 | – | 668 | – | – | – | – | – | – | 717 |
| Gate Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Air Valves in same | – | – | – | – | – | – | – | – | – | 1 | – | 2 | – | – | – | – | – | – | –3 |
| Length owned and operated Dec. 31, 1941 (feet) | 130,179[1] | 17,634[2] | 13,486[2] | 255,429[3] | 12,218[4] | 6,887 | 7,274[2] | 75,423[5] | 78,497[6] | 102,522[7] | 153,486[8] | 80,176[9] | 26 | 30,639 | 724 | 1,978 | 1,263 | 58 | 967,899[10] |
| Gate Valves in same | 22 | 2 | 5 | 72 | 3 | 3 | – | 82 | 53 | 75 | 109 | 158 | 1 | 177 | 22 | 35 | 28 | 2 | 849 |
| Air Valves in same | 190 | 9 | 12 | 195 | 12 | 5 | 6 | 71 | 46 | 61 | 101 | 43 | – | 14 | 1 | – | – | – | 766 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,661 feet of steel pipe.
[7] Includes 805 feet of steel pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 124 feet of steel pipe.
[10] 183.31 miles.

TABLE NO. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1942*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1941 (feet) | 130,179 | 17,634 | 13,486 | 255,429 | 12,218 | 6,887 | 7,274 | 75,423 | 78,497 | 102,522 | 153,486 | 80,176 | 26 | 30,639 | 724 | 1,978 | 1,263 | 58 | 967,899 |
| Gate Valves in same | 22 | 2 | 5 | 72 | 3 | 3 | – | 82 | 53 | 75 | 109 | 158 | 1 | 177 | 22 | 35 | 28 | 2 | 849 |
| Air Valves in same | 190 | 9 | 12 | 195 | 12 | 5 | 6 | 71 | 46 | 61 | 101 | 43 | – | 14 | 1 | – | – | – | 766 |
| Length laid or relaid during 1942 (feet) | – | – | – | 33 | – | – | – | 16 | 3 | 2,970 | 90 | 515 | – | 85 | – | – | – | – | 3,712 |
| Gate Valves in same | – | – | – | 1 | – | – | – | – | – | 2 | 2 | 10 | – | 5 | – | – | – | – | 20 |
| Air Valves in same | – | – | – | – | – | – | – | – | 1 | 1 | – | 12 | – | – | – | – | – | – | 14 |
| Length abandoned during 1942 (feet) | – | – | – | 50 | – | – | – | – | 66 | – | 37 | 407 | – | 125 | – | – | – | – | 685 |
| Gate Valves in same | – | – | – | – | – | – | – | – | 1 | – | – | 3 | – | 5 | – | – | – | – | 9 |
| Air Valves in same | – | – | – | – | – | – | – | – | – | – | – | 11 | – | – | – | – | – | – | 11 |
| Length owned and operated Dec. 31, 1942 (feet) | 130,179[1] | 17,634[2] | 13,486[2] | 255,412[3] | 12,218[4] | 6,887 | 7,274[2] | 75,439[5] | 78,434[6] | 105,492[7] | 153,539[8] | 80,284[9] | 26 | 30,599 | 724 | 1,978 | 1,263 | 58 | 970,926[10] |
| Gate Valves in same | 22 | 2 | 5 | 73 | 3 | 3 | – | 82 | 52 | 77 | 111 | 165 | 1 | 177 | 22 | 35 | 28 | 2 | 860 |
| Air Valves in same | 190 | 9 | 12 | 195 | 12 | 5 | 6 | 71 | 47 | 62 | 101 | 44 | – | 14 | 1 | – | – | – | 769 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,661 feet of steel pipe.
[7] Includes 3,605 feet of steel pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 279 feet of steel pipe.
[10] 183.89 miles.

## TABLE NO. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1943*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1942 (feet) | 130,179 | 17,634 | 13,486 | 255,412 | 12,218 | 6,887 | 7,274 | 75,439 | 78,434 | 105,492 | 153,539 | – | 80,284 | 26 | 30,599 | 724 | 1,978 | 1,263 | 58 | 970,926 |
| Gate Valves in same | 22 | 2 | 5 | 73 | 3 | 3 | – | 82 | 52 | 77 | 111 | – | 165 | 1 | 177 | 22 | 35 | 28 | 2 | 860 |
| Air Valves in same | 190 | 9 | 12 | 195 | 12 | 5 | 6 | 71 | 47 | 62 | 101 | – | 44 | – | 14 | 1 | – | – | – | 769 |
| Length laid or relaid during 1943 (feet) | – | – | – | 44 | – | 16 | – | 325 | – | 7,775 | 75 | 4 | 159 | – | 129 | 36 | – | 236 | – | 8,799 |
| Gate Valves in same | – | – | – | 1 | – | – | – | 3 | – | 6 | 5 | 1 | 6 | – | 8 | 1 | – | 3 | – | 34 |
| Air Valves in same | – | – | – | 1 | – | – | – | 3 | – | 9 | – | – | – | – | – | – | – | – | – | 13 |
| Length abandoned during 1943 (feet) | – | – | – | 48 | – | – | – | 12 | – | – | 55 | – | 14 | – | 16 | 9 | – | – | – | 154 |
| Gate Valves in same | – | – | – | – | – | – | – | – | – | – | 1 | – | – | – | – | – | – | – | – | 1 |
| Air Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Length owned and operated Dec. 31, 1943 (feet) | 130,179[1] | 17,634[2] | 13,486[2] | 255,408[3] | 12,218[4] | 6,903 | 7,274[2] | 75,752[5] | 78,434[6] | 113,267[7] | 153,559[8] | 4 | 80,429[9] | 26 | 30,712[10] | 751 | 1,978 | 1,499 | 58 | 979,571[11] |
| Gate Valves in same | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 83 | 115 | 1 | 171 | 1 | 185 | 23 | 35 | 31 | 2 | 893 |
| Air Valves in same | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 71 | 101 | – | 44 | – | 14 | 1 | – | – | – | 782 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,661 feet of steel pipe.
[7] Includes 4,803 feet of steel pipe and 6,333 feet of lock joint reinforced concrete pressure pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 279 feet of steel pipe.
[10] Includes 4 feet of steel pipe.
[11] 185.52 miles.

TABLE No. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1944*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1943 (feet) . . | 130,179 | 17,634 | 13,486 | 255,408 | 12,218 | 6,903 | 7,274 | 75,752 | 78,434 | 113,267 | 153,559 | 4 | 80,429 | 26 | 30,712 | 751 | 1,978 | 1,499 | 58 | 979,571 |
| Gate Valves in same . | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 83 | 115 | 1 | 171 | 1 | 185 | 23 | 35 | 31 | 2 | 893 |
| Air Valves in same . | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 71 | 101 | – | 44 | – | 14 | 1 | – | – | – | 782 |
| Length laid or relaid during 1944 (feet) . | – | – | – | – | – | – | – | – | – | 4,631 | 45 | – | 23 | – | 109 | – | 11 | – | – | 4,819 |
| Gate Valves in same . | – | – | – | – | – | – | – | – | – | 7 | 3 | – | 4 | – | 4 | – | – | – | – | 18 |
| Air Valves in same . | – | – | – | – | – | – | – | – | – | 1 | – | – | – | – | – | – | – | – | – | 1 |
| Length abandoned during 1944 (feet) . | – | – | – | – | – | – | – | – | – | 26 | 37 | – | 14 | – | 47 | – | – | – | – | 124 |
| Gate Valves in same . | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Air Valves in same . | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Length owned and operated Dec. 31, 1944 (feet) . . . | 130,179[1] | 17,634[2] | 13,486[2] | 255,408[3] | 12,218[4] | 6,903 | 7,274[2] | 75,752[5] | 78,434[6] | 117,872[7] | 153,567[8] | 4 | 80,438[9] | 26 | 30,774[10] | 751 | 1,989 | 1,499 | 58 | 984,266[11] |
| Gate Valves in same . | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 90 | 118 | 1 | 175 | 1 | 189 | 23 | 35 | 31 | 2 | 911 |
| Air Valves in same . | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 72 | 101 | – | 44 | – | 14 | 1 | – | – | – | 783 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,661 feet of steel pipe.
[7] Includes 4,803 feet of steel pipe and 6,482 feet of lock-joint reinforced concrete pressure pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 279 feet of steel pipe.
[10] Includes 4 feet of steel pipe.
[11] 186.41 miles.

## TABLE NO. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1945*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1944 (feet) | 130,179 | 17,634 | 13,486 | 255,408 | 12,218 | 6,903 | 7,274 | 75,752 | 78,434 | 117,872 | 153,567 | 4 | 80,438 | 26 | 30,774 | 751 | 1,989 | 1,499 | 58 | 984,266 |
| Gate Valves in same | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 90 | 118 | 1 | 175 | 1 | 189 | 23 | 35 | 31 | 2 | 911 |
| Air Valves in same | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 72 | 101 | – | 44 | – | 14 | 1 | – | – | – | 783 |
| Length laid or relaid during 1945 (feet) | – | – | – | 15 | – | – | – | 34 | 71 | 1,116 | 122 | – | 137 | – | 534 | 22 | – | 8 | – | 2,059 |
| Gate Valves in same | – | – | – | – | – | – | – | – | – | 9 | 3 | – | 5 | – | 7 | 1 | – | – | – | 25 |
| Air Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Length abandoned during 1945 (feet) | 60 | – | – | – | – | – | – | – | 71 | 4 | 10 | – | – | – | – | – | – | 8 | – | 153 |
| Gate Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Air Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Length owned and operated Dec. 31, 1945 (feet) | 130,119[1] | 17,634[2] | 13,486[2] | 255,423[3] | 12,218[4] | 6,903 | 7,274[2] | 75,786[5] | 78,434[6] | 118,984[7] | 153,679[8] | 4 | 80,575[9] | 26 | 31,808[10] | 773 | 1,989 | 1,499 | 58 | 986,172[11] |
| Gate Valves in same | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 99 | 121 | 1 | 180 | 1 | 196 | 24 | 35 | 31 | 2 | 936 |
| Air Valves in same | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 72 | 101 | – | 44 | – | 14 | 1 | – | – | – | 783 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,658 feet of steel pipe.
[7] Includes 4,844 feet of steel pipe and 6,482 feet of lock-joint reinforced concrete pressure pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 279 feet of steel pipe.
[10] Includes 4 feet of steel pipe.
[11] 186.78 miles.

TABLE No. 19. — *Length of Metropolitan Water Works Main Lines and Connections and Number of Valves Set in Same, December 31, 1946*

(Pipes are of cast-iron unless otherwise noted)

| | Diameter of pipes in inches | | | | | | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | |
| Total length owned and operated Dec. 31, 1945 (feet) | 130,119 | 17,634 | 13,486 | 255,423 | 12,218 | 6,903 | 7,274 | 75,786 | 78,434 | 118,984 | 153,679 | 4 | 80,575 | 26 | 31,308 | 773 | 1,989 | 1,499 | 58 | 986,172 |
| Gate Valves in same | 22 | 2 | 5 | 74 | 3 | 3 | – | 85 | 52 | 99 | 121 | 1 | 180 | 1 | 196 | 24 | 35 | 31 | 2 | 936 |
| Air Valves in same | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 74 | 47 | 72 | 101 | – | 44 | – | 14 | 1 | – | – | – | 783 |
| Length laid or relaid during 1946 (feet) | – | – | – | 36 | – | – | – | 23 | – | 4,385 | 18 | – | 229 | – | 88 | 24 | 77 | 30 | – | 4,910 |
| Gate Valves in same | – | – | – | – | – | – | – | 2 | – | 3 | – | – | 8 | – | 3 | – | 1 | – | – | 17 |
| Air Valves in same | – | – | – | – | – | – | – | 1 | – | 4 | – | – | 5 | – | – | – | – | – | – | 10 |
| Length abandoned during 1946 (feet) | – | – | – | 59 | – | – | – | – | – | 15 | 4 | – | 583 | – | 11 | – | – | 78 | – | 750 |
| Gate Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Air Valves in same | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Length owned and operated Dec. 31, 1946 (feet) | 130,119[1] | 17,634[2] | 13,486[2] | 255,400[3] | 12,218[4] | 6,903 | 7,274 | 75,809[5] | 78,434[6] | 123,354[7] | 153,693[8] | 4 | 80,221[9] | 26 | 31,385[10] | 797 | 2,066 | 1,451 | 58 | 990,332[11] |
| Gate Valves in same | 22 | 2 | 5 | 74 | 3 | 3 | – | 87 | 52 | 102 | 121 | 1 | 188 | 1 | 199 | 24 | 36 | 31 | 2 | 953 |
| Air Valves in same | 190 | 9 | 12 | 196 | 12 | 5 | 6 | 75 | 47 | 76 | 101 | – | 49 | – | 14 | 1 | – | – | – | 793 |

[1] Includes 2,035 feet of 76-inch concrete-lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe, and 82,624 feet of 60-inch steel pipe.
[2] Steel pipe.
[3] Includes 39,670 feet of steel pipe.
[4] Includes 2,338 feet of steel pipe.
[5] Includes 11,491 feet of steel pipe.
[6] Includes 15,512 feet of mortar-lined and covered wrought-iron pipe; and 26,658 feet of steel pipe.
[7] Includes 5,032 feet of steel pipe and 6,482 feet of lock-joint reinforced concrete pressure pipe.
[8] Includes 1,154 feet of steel pipe.
[9] Includes 279 feet of steel pipe.
[10] Includes 4 feet of steel pipe.
[11] 187.56 miles.

## TABLE NO. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1941*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec. 31, 1940 (feet) | 352 | 292 | 4,270 | 8,314 | 233 | 1,307 | 4,862 | 1,946 | 21,576 |
| Valves in same | – | – | 59 | 151 | 2 | 20 | 120 | 56 | 408 |
| Length laid or relaid in 1941 (feet) | – | – | – | 140 | – | – | 11 | 117 | 268 |
| Valves in same | – | – | – | 3 | – | – | – | 2 | 5 |
| Length abandoned in 1941 (feet) | – | – | – | – | – | – | 9 | 62 | 71 |
| Valves in same | – | – | – | – | – | – | – | 2 | 2 |
| Total length in use Dec. 31, 1941 (feet) | 352 | 292 | 4,270 | 8,454 | 233 | 1,307 | 4,864 | 2,001 | 21,773[1] |
| Valves in same | – | – | 59 | 154 | 2 | 20 | 120 | 56 | 411 |

[1] 4.12 miles.

## TABLE NO. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1942*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec 31, 1941 (feet) | 352 | 292 | 4,270 | 8,454 | 233 | 1,307 | 4,864 | 2,001 | 21,773 |
| Valves in same | – | – | 59 | 154 | 2 | 20 | 120 | 56 | 411 |
| Length laid or relaid in 1942 (feet) | – | – | – | 7 | – | 2 | 98 | 163 | 270 |
| Valves in same | – | – | – | – | – | 1 | 4 | 2 | 7 |
| Length abandoned in 1942 (feet) | – | – | – | – | – | – | – | 73 | 73 |
| Valves in same | – | – | – | – | – | – | – | 2 | 2 |
| Total length in use Dec 31, 1942 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,309 | 4,962 | 2,091 | 21,970[1] |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 124 | 56 | 416 |

[1] 4.16 miles.

## TABLE NO. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1943*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec 31, 1942 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,309 | 4,962 | 2,091 | 21,970 |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 124 | 56 | 416 |
| Length laid or relaid in 1943 (feet) | – | – | – | – | – | – | 12 | 7 | 19 |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Length abandoned in 1943 (feet) | – | – | – | – | – | – | – | 19 | 19 |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Total length in use Dec 31, 1943 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,309 | 4,974 | 2,079 | 21,970[1] |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 124 | 56 | 416 |

[1] 4.16 miles.

## TABLE NO. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1944*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec. 31, 1943 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,309 | 4,974 | 2,079 | 21,970 |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 124 | 56 | 416 |
| Length laid or relaid in 1944 (feet) | – | – | – | – | – | 144 | 169 | – | 313 |
| Valves in same | – | – | – | – | – | – | 4 | – | 4 |
| Length abandoned in 1944 (feet) | – | – | – | – | – | – | – | – | – |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Total length in use Dec. 31, 1944 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,453 | 5,143 | 2,079 | 22,283[1] |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 128 | 56 | 420 |

[1] 4.22 miles.

## Table No. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1945*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec. 31, 1944 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 1,453 | 5,143 | 2,079 | 22,283 |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 128 | 56 | 420 |
| Length laid or relaid in 1945 (feet) | – | – | – | – | – | 1,482 | 42 | – | 1,524 |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Length abandoned in 1945 (feet) | – | – | – | – | – | – | – | – | – |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Total length in use Dec. 31, 1945 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 2,935 | 5,185 | 2,079 | 23,807[1] |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 128 | 56 | 420 |

[1] 4.51 miles.

## Table No. 20. — *Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1946*

(All pipes are of cast iron)

| | Diameter of Pipes in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | 20 | 16 | 12 | 10 | 8 | 6 | 4 | Total |
| Total length in use Dec 31, 1945 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 2,935 | 5,185 | 2,079 | 23,807 |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 128 | 56 | 420 |
| Length laid or relaid in 1946 (feet) | – | – | – | – | – | – | 328 | – | 328 |
| Valves in same | – | – | – | – | – | – | 2 | – | 2 |
| Length abandoned in 1946 (feet) | – | – | – | – | – | – | – | – | – |
| Valves in same | – | – | – | – | – | – | – | – | – |
| Total length in use Dec. 31, 1946 (feet) | 352 | 292 | 4,270 | 8,461 | 233 | 2,935 | 5,513 | 2,079 | 24,135[1] |
| Valves in same | – | – | 59 | 154 | 2 | 21 | 130 | 56 | 422 |

[1] 4.57 miles.

TABLE NO. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1941*

| By Whom Owned | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *18* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | *Feet* | *Miles* |
| Met. Water Wks. | 130,179 | 17,634 | 13,486 | 255,429 | 12,218 | 6,887 | 7,274 | 75,423 | 78,497 | 102,522 | 153,486 | – | 80,176 | 26 | 30,639 | 724 | 1,978 | 1,263 | 58 | 967,899 | 183.31 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 51,653 | 42,862 | 150,994 | 256,650 | 380 | 504,927 | 95.63 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 101,321 | 220,144 | 269 | 393,540 | 74.53 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,324 | 108,131 | – | 365,765 | 285 | 1,831,809 | 451,009 | 1,194,622 | 969,556 | 62,285 | 5,260,252 | 996.26 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 96,767 | 135,948 | 278,614 | 250 | 655,497 | 124.15 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,520 | 157,395 | – | 262,025 | 49.63 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 25,536 | 10,242 | 10,168 | 48,363 | 39,488 | 166,538 | 11,540 | 317,261 | 60.09 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,621 | 79,860 | 205,915 | 20,188 | 377,907 | 71.57 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 38,493 | 132,596 | 242,077 | 37,989 | 576,441 | 109.17 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 52,901 | 156,000 | 316,923 | 779 | 594,010 | 112.50 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 32,023 | 32,659 | 215,661 | 47,050 | 369,104 | 69.91 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,056 | 35,661 | 114,577 | 237,785 | 5,856 | 493,586 | 93.48 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 39,436 | 59,555 | 142,210 | 26.93 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 248,836 | 806,516 | 53,003 | 1,292,159 | 244.73 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 104,676 | 272,267 | 472,292 | 62,752 | 1,052,106 | 199.26 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 12,181 | 40,207 | 40,936 | 111,535 | 148,405 | 7,107 | 370,841 | 70.24 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 160,802 | 98,471 | 113,705 | 179,184 | 14,770 | 590,912 | 111.92 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,939 | 37,382 | 113,414 | 16,791 | 190,502 | 36.08 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 21,800 | 8,208 | 126,483 | 4,494 | 180,451 | 34.18 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 19,206 | 51,840 | 97,276 | 179,719 | 3,178 | 359,746 | 68.13 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 5,782 | 24,198 | 95,529 | 52,040 | 8,933 | 195,960 | 37.11 |
| Total feet | 130,179 | 17,634 | 13,486 | 311,024 | 28,409 | 16,486 | 7,274 | 105,661 | 154,340 | 204,339 | 359,662 | 367 | 627,997 | 88,084 | 2,802,361 | 1,295,820 | 3,180,976 | 5,386,010 | 417,227 | 15,147,336 | – |
| Total miles | 24.66 | 3.34 | 2.55 | 58.91 | 5.38 | 3.12 | 1.38 | 20.01 | 29.23 | 38.70 | 68.12 | 0.07 | 118.93 | 16.68 | 530.75 | 245.42 | 602.46 | 1,020.08 | 79.02 | – | 2,868.81 |

TABLE NO. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1942*

| BY WHOM OWNED | DIAMETER OF PIPES IN INCHES | | | | | | | | | | | | | | | | | | | TOTALS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *18* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | *Feet* | *Miles* |
| Met. Water Wks. | 130,179 | 17,634 | 13,486 | 255,412 | 12,218 | 6,887 | 7,274 | 75,439 | 78,434 | 105,492 | 153,539 | – | 80,284 | 26 | 30,599 | 724 | 1,978 | 1,263 | 58 | 970,926 | 183.89 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 49,827 | 42,982 | 151,668 | 259,061 | 380 | 506,306 | 95.89 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 102,271 | 220,176 | 269 | 394,522 | 74.72 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,324 | 108,131 | – | 365,765 | 285 | 1,832,075 | 451,009 | 1,195,833 | 969,375 | 62,285 | 5,261,548 | 996.51 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 97,427 | 136,299 | 278,870 | 250 | 656,764 | 124.39 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,520 | 157,395 | – | 262,025 | 49.63 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 25,536 | 10,242 | 10,168 | 50,098 | 39,488 | 166,444 | 7,098 | 314,460 | 59.56 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,621 | 79,860 | 206,366 | 20,188 | 378,358 | 71.66 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 38,493 | 132,622 | 242,822 | 37,989 | 577,212 | 109.32 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 52,901 | 155,941 | 318,860 | 239 | 595,348 | 112.76 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 32,023 | 32,659 | 216,494 | 46,768 | 369,655 | 70.01 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 35,908 | 114,460 | 238,299 | 5,304 | 493,665 | 93.50 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 39,436 | 59,555 | 142,210 | 26.93 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 250,662 | 808,481 | 53,292 | 1,296,239 | 245.50 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 104,676 | 275,794 | 474,626 | 62,752 | 1,057,967 | 200.37 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 11,652 | 40,207 | 40,946 | 111,535 | 148,950 | 7,107 | 370,867 | 70.24 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 163,267 | 98,471 | 113,123 | 178,382 | 15,266 | 592,489 | 112.21 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,834 | 40,234 | 111,725 | 16,949 | 191,718 | 36.31 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 22,050 | 8,208 | 126,483 | 4,494 | 180,701 | 34.22 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 22,806 | 51,840 | 97,308 | 179,988 | 3,178 | 363,647 | 68.87 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 5,782 | 24,198 | 95,529 | 52,040 | 8,933 | 195,960 | 37.11 |
| Total feet | 130,179 | 17,634 | 13,486 | 311,007 | 28,409 | 16,486 | 7,274 | 105,677 | 154,277 | 207,309 | 359,715 | 367 | 628,105 | 87,555 | 2,806,813 | 1,298,737 | 3,191,667 | 5,395,536 | 412,354 | 15,172,587 | – |
| Total miles | 24.66 | 3.34 | 2.55 | 58.90 | 5.38 | 3.12 | 1.38 | 20.02 | 29.22 | 39.26 | 68.13 | 0.07 | 118.96 | 16.58 | 531.60 | 245.97 | 604.48 | 1,021.88 | 78.10 | – | 2,873.60 |

TABLE No. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1943*

| By Whom Owned | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | Feet | Miles |
| Met. Water Wks. | 130,179 | 17,634 | 13,486 | 255,408 | 12,218 | 6,903 | 7,274 | 75,752 | 78,434 | 113,267 | 153,559 | 4 | 80,429 | 26 | 30,712 | 751 | 1,978 | 1,499 | 58 | 979,571 | 185.52 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 50,080 | 43,142 | 151,668 | 262,566 | 380 | 510,224 | 96.63 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 102,271 | 220,176 | 269 | 394,522 | 74.72 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,324 | 108,131 | – | 365,765 | 285 | 1,832,310 | 451,009 | 1,196,471 | 969,375 | 62,442 | 5,262,578 | 996.70 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 97,427 | 136,299 | 278,870 | 250 | 656,764 | 124.39 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,520 | 157,395 | – | 262,025 | 49.62 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 26,191 | 10,711 | 10,168 | 50,120 | 39,488 | 165,631 | 7,098 | 314,793 | 59.62 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,621 | 79,860 | 206,618 | 20,188 | 378,610 | 71.71 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 38,493 | 133,220 | 243,396 | 38,113 | 578,508 | 109.57 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 52,901 | 158,128 | 317,703 | 339 | 596,478 | 112.97 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 32,023 | 32,942 | 217,350 | 46,485 | 370,511 | 70.17 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 35,775 | 114,460 | 238,526 | 5,304 | 493,759 | 93.51 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 39,686 | 59,579 | 142,484 | 26.99 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 250,622 | 808,678 | 53,292 | 1,296,396 | 245.53 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 104,676 | 276,181 | 474,626 | 62,752 | 1,058,354 | 200.45 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 11,652 | 40,207 | 40,946 | 111,535 | 149,093 | 7,107 | 371,010 | 70.27 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 163,462 | 98,471 | 113,238 | 178,480 | 15,272 | 592,903 | 112.29 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,833 | 40,656 | 111,988 | 16,948 | 192,401 | 36.44 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 22,050 | 8,208 | 126,483 | 4,494 | 180,701 | 34.22 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 22,806 | 51,840 | 100,508 | 179,188 | 3,178 | 366,047 | 69.33 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 5,782 | 24,198 | 95,529 | 52,040 | 8,933 | 195,960 | 37.11 |
| Total feet | 130,179 | 17,634 | 13,486 | 311,003 | 28,409 | 16,502 | 7,274 | 105,990 | 154,277 | 215,084 | 359,735 | 371 | 628,905 | 88,024 | 2,807,609 | 1,298,812 | 3,199,457 | 5,399,367 | 412,481 | 15,194,599 | – |
| Total miles | 24.66 | 3.34 | 2.65 | 58.90 | 5.38 | 3.13 | 1.38 | 20.07 | 29.22 | 40.73 | 68.13 | 0.07 | 119.11 | 16.67 | 531.74 | 245.99 | 605.96 | 1,022.61 | 78.12 | – | 2,877.76 |

TABLE No. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1944*

| By Whom Owned | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *18* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | *Feet* | *Miles* |
| Met. Water Wks. | 130,179 | 17,634 | 13,486 | 255,408 | 12,218 | 6,903 | 7,274 | 75,752 | 78,434 | 117,872 | 153,567 | 4 | 80,438 | 26 | 30,774 | 751 | 1,989 | 1,499 | 58 | 984,266 | 186.41 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 50,080 | 43,142 | 152,792 | 262,579 | 380 | 511,361 | 96.85 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 102,271 | 220,176 | 269 | 394,522 | 74.72 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,285 | 108,131 | – | 365,804 | 285 | 1,832,400 | 451,004 | 1,195,937 | 969,329 | 62,442 | 5,262,083 | 996.61 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 97,427 | 136,299 | 278,870 | 250 | 656,764 | 124.39 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,520 | 157,395 | – | 262,025 | 49.63 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 26,191 | 10,711 | 10,168 | 50,120 | 39,488 | 165,631 | 7,098 | 314,793 | 59.62 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,621 | 80,560 | 206,618 | 20,188 | 379,310 | 71.84 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 38,493 | 133,470 | 243,551 | 38,113 | 578,913 | 109.64 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 52,901 | 159,799 | 317,628 | 18 | 597,753 | 113.21 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 32,914 | 32,942 | 216,646 | 46,485 | 370,698 | 70.21 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 35,775 | 114,460 | 239,684 | 5,304 | 494,917 | 93.73 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 40,028 | 59,851 | 143,098 | 27.10 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 250,622 | 809,606 | 53,041 | 1,297,073 | 245.66 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 104,676 | 276,181 | 474,776 | 62,752 | 1,058,504 | 200.47 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 11,652 | 40,207 | 40,946 | 111,797 | 149,129 | 7,107 | 371,308 | 70.32 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 163,462 | 98,471 | 113,238 | 178,480 | 15,272 | 592,903 | 112.29 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,833 | 41,078 | 111,988 | 16,948 | 192,823 | 36.52 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 22,050 | 8,208 | 127,734 | 4,494 | 181,952 | 34.46 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 22,806 | 52,712 | 100,662 | 178,316 | 3,178 | 366,201 | 69.36 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 6,322 | 24,198 | 95,539 | 52,040 | 8,933 | 196,510 | 37.22 |
| Total feet | 130,179 | 17,634 | 13,486 | 311,003 | 28,409 | 16,502 | 7,274 | 105,990 | 154,277 | 219,650 | 359,743 | 371 | 628,953 | 88,024 | 2,808,301 | 1,300,570 | 3,203,527 | 5,401,703 | 412,181 | 15,207,777 | – |
| Total miles | 24.66 | 3.34 | 2.55 | 58.90 | 5.38 | 3.13 | 1.38 | 20.07 | 29.22 | 41.60 | 68.13 | 0.07 | 119.12 | 16.67 | 531.88 | 246.32 | 606.73 | 1,023.05 | 78.06 | – | 2,880.26 |

TABLE No. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1945*

| By Whom Owned | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *60* | *56* | *54* | *48* | *42* | *40* | *38* | *36* | *30* | *24* | *20* | *18* | *16* | *14* | *12* | *10* | *8* | *6* | *4* | *Feet* | *Miles* |
| Met. Water Wks. | 130,119 | 17,634 | 13,486 | 255,423 | 12,218 | 6,903 | 7,274 | 75,786 | 78,434 | 118,984 | 153,679 | 4 | 80,575 | 26 | 31,308 | 773 | 1,989 | 1,499 | 58 | 986,172 | 186.78 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 50,080 | 43,142 | 154,263 | 263,081 | 380 | 513,334 | 97.22 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 102,271 | 220,291 | 269 | 394,637 | 74.74 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,285 | 108,061 | – | 365,877 | 285 | 1,832,400 | 451,026 | 1,197,149 | 968,438 | 62,442 | 5,262,429 | 996.67 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,292 | – | 26,406 | 12,880 | 67,333 | 97,427 | 137,621 | 278,947 | 250 | 658,163 | 124.65 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,520 | 157,395 | 50 | 262,075 | 49.64 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 26,191 | 10,711 | 10,168 | 50,120 | 39,488 | 165,631 | 7,098 | 314,793 | 59.62 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 48,941 | 18,621 | 80,560 | 206,618 | 20,188 | 379,310 | 71.84 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 38,966 | 133,470 | 243,836 | 38,113 | 579,671 | 109.79 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 52,901 | 161,100 | 318,414 | 573 | 600,395 | 113.71 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 32,914 | 33,749 | 216,650 | 46,126 | 371,150 | 70.29 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 36,052 | 114,637 | 239,755 | 5,304 | 495,442 | 93.83 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 40,028 | 59,851 | 143,098 | 27.10 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 251,680 | 810,980 | 53,041 | 1,299,505 | 246.12 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 104,676 | 276,181 | 474,776 | 62,752 | 1,058,504 | 200.48 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 11,652 | 40,207 | 40,946 | 111,797 | 149,229 | 7,107 | 371,408 | 70.34 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 163,462 | 98,471 | 113,238 | 178,480 | 15,272 | 592,903 | 112.29 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,833 | 41,078 | 111,988 | 16,948 | 192,823 | 36.52 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 22,050 | 8,208 | 127,984 | 4,494 | 182,202 | 34.51 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 22,806 | 54,262 | 100,962 | 178,564 | 3,178 | 368,299 | 69.75 |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 6,322 | 24,198 | 95,539 | 52,040 | 8,933 | 196,510 | 37.22 |
| Total feet | 130,119 | 17,634 | 13,486 | 311,018 | 28,409 | 16,502 | 7,274 | 106,024 | 154,277 | 220,762 | 359,785 | 371 | 629,163 | 88,024 | 2,808,835 | 1,302,914 | 3,211,175 | 5,404,624 | 412,427 | 15,222,823 | – |
| Total miles | 24.64 | 3.34 | 2.55 | 58.90 | 5.38 | 3.13 | 1.38 | 20.08 | 29.22 | 41.81 | 68.14 | 0.07 | 119.16 | 16.67 | 531.98 | 246.77 | 608.18 | 1,023.60 | 78.11 | – | 2,883.11 |

TABLE NO. 21. — *Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns in the Metropolitan Water District, December 31, 1946*

| By Whom Owned | Diameter of Pipes in Inches | | | | | | | | | | | | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | 56 | 54 | 48 | 42 | 40 | 38 | 36 | 30 | 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 6 | 4 | Feet | Miles |
| Met. Water Wks. | 130,119 | 17,634 | 13,486 | 255,400 | 12,218 | 6,903 | 7,274 | 75,809 | 78,434 | 123,354 | 153,693 | 4 | 80,221 | 26 | 31,385 | 797 | 2,066 | 1,451 | 58 | 990,332 | 187.56 |
| Arlington | – | – | – | – | – | – | – | – | – | – | – | – | 2,388 | – | 51,789 | 43,142 | 162,182 | 263,081 | 380 | 522,962 | 99.04 |
| Belmont | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 17,980 | 53,826 | 102,521 | 221,723 | 269 | 396,319 | 75.06 |
| Boston | – | – | – | 55,595 | 16,191 | 9,599 | – | 30,238 | 75,843 | 89,285 | 108,061 | – | 365,877 | 285 | 1,834,450 | 451,026 | 1,199,522 | 965,517 | 62,442 | 5,263,931 | 996.96 |
| Brookline | – | – | – | – | – | – | – | – | – | 10,007 | 27,688 | – | 27,206 | 12,880 | 67,883 | 97,427 | 139,747 | 278,390 | 250 | 661,478 | 125.28 |
| Chelsea | – | – | – | – | – | – | – | – | – | – | 4,660 | – | 4,685 | – | 6,015 | 48,750 | 40,538 | 157,505 | – | 262,153 | 49.65 |
| Everett | – | – | – | – | – | – | – | – | – | 2,486 | 2,900 | – | 26,191 | 10,711 | 10,168 | 50,120 | 39,488 | 165,631 | 7,098 | 314,793 | 59.62 |
| Lexington | – | – | – | – | – | – | – | – | – | – | – | – | 4,382 | – | 50,271 | 18,621 | 88,237 | 210,643 | 20,310 | 392,464 | 74.33 |
| Malden | – | – | – | – | – | – | – | – | – | – | – | – | 12,579 | 11,142 | 101,565 | 39,156 | 133,735 | 244,573 | 38,201 | 580,951 | 110.03 |
| Medford | – | – | – | – | – | – | – | – | – | – | 673 | – | 6,775 | 9,598 | 50,361 | 54,098 | 162,178 | 321,469 | 573 | 605,725 | 114.72 |
| Melrose | – | – | – | – | – | – | – | – | – | – | – | – | 12,464 | 3,024 | 26,223 | 33,170 | 34,068 | 216,726 | 46,126 | 371,801 | 70.42 |
| Milton | – | – | – | – | – | – | – | – | – | – | – | – | 4,579 | 72 | 95,043 | 36,845 | 116,325 | 241,348 | 5,304 | 499,516 | 94.61 |
| Nahant | – | – | – | – | – | – | – | – | – | – | – | – | – | 10,444 | 5,550 | 11,550 | 15,675 | 40,748 | 59,531 | 143,498 | 27.18 |
| Newton | – | – | – | – | – | – | – | – | – | – | 36,250 | – | 18,582 | – | 120,562 | 8,410 | 258,235 | 813,368 | 53,041 | 1,308,448 | 247.81 |
| Quincy | – | – | – | – | – | – | – | – | – | – | 15,542 | – | 35,648 | – | 88,929 | 105,296 | 276,651 | 476,411 | 62,752 | 1,061,229 | 200.99 |
| Revere | – | – | – | – | – | – | – | – | – | – | – | – | 10,470 | 11,652 | 40,207 | 40,946 | 113,056 | 149,665 | 7,107 | 373,103 | 70.66 |
| Somerville | – | – | – | – | – | – | – | – | – | – | 5,577 | 367 | 10,094 | 7,942 | 163,593 | 98,471 | 113,238 | 178,630 | 15,122 | 593,034 | 112.32 |
| Stoneham | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 8,976 | 13,833 | 41,078 | 112,348 | 16,948 | 193,183 | 36.59 |
| Swampscott | – | – | – | – | – | – | – | – | – | – | – | – | 150 | 4,712 | 14,604 | 22,050 | 11,158 | 129,311 | 4,494 | 186,479 | 35.32 |
| Watertown | – | – | – | – | – | – | – | – | – | – | – | – | 2,991 | 5,536 | 22,806 | 55,237 | 101,650 | 177,986 | 3,178 | 369,384 | 69.96 |
| Winchester[1] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Winthrop | – | – | – | – | – | – | – | – | – | – | 5,151 | – | 4,327 | – | 6,322 | 24,198 | 96,761 | 50,683 | 8,933 | 196,375 | 37.17 |
| Total feet | 130,119 | 17,634 | 13,486 | 310,995 | 28,409 | 16,502 | 7,274 | 106,047 | 154,277 | 225,132 | 360,195 | 371 | 629,609 | 88,024 | 2,814,682 | 1,306,969 | 3,248,109 | 5,417,207 | 412,117 | 15,287,158 | – |
| Total miles | 24.64 | 3.34 | 2.55 | 58.90 | 5.38 | 3.13 | 1.38 | 20.08 | 29.22 | 42.64 | 68.22 | 0.07 | 119.25 | 16.67 | 533.09 | 247.53 | 615.17 | 1,025.99 | 78.05 | – | 2,895.30 |

[1] As only west portion of town was supplied no exact measurement obtainable.

TABLE No. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1941*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,410 | 8,375 | 99.58 | 34 | 997 |
| BELMONT | 5,492 | 5,492 | 100.00 | 14 | 562 |
| BOSTON | 101,486 | 101,486 | 100.00 | 3,091 | 12,227 |
| CHELSEA | 5,744 | 5,744 | 100.00 | 163 | 457 |
| EVERETT | 7,348 | 7,348 | 100.00 | 56 | 606 |
| LEXINGTON | 2,988 | 2,988 | 100.00 | 19 | 582 |
| MALDEN | 9,815 | 9,810 | 99.95 | 74 | 784 |
| MEDFORD | 10,983 | 10,977 | 99.95 | 40 | 1,149 |
| MELROSE | 6,453 | 6,453 | 100.00 | 27 | 494 |
| MILTON | 5,107 | 5,107 | 100.00 | 10 | 751 |
| NAHANT | 947 | 947 | 100.00 | 2 | 148 |
| QUINCY | 16,807 | 16,807 | 100.00 | 66 | 1,905 |
| REVERE | 6,575 | 6,575 | 100.00 | 14 | 567 |
| SOMERVILLE | 13,884 | 13,799 | 99.39 | 139 | 1,438 |
| STONEHAM | 2,620 | 2,618 | 99.92 | 6 | 225 |
| SWAMPSCOTT | 2,928 | 2,928 | 100.00 | 3 | 305 |
| WATERTOWN | 6,231 | 6,231 | 100.00 | 47 | 757 |
| WINTHROP | 3,969 | 3,969 | 100.00 | 6 | 398 |
| District Supplied | 217,787 | 217,654 | 99.94 | 3,811 | 24,352 |
| Brookline | 8,656 | 8,656 | 100.00 | 68 | 1,294 |
| Newton | 16,909 | 16,909 | 100.00 | 79 | 1,869 |
| Total District | 243,352 | 243,219 | 99.95 | 3,958 | 27,515 |

TABLE No. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1942*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,426 | 8,400 | 99.69 | 23 | 1,002 |
| BELMONT | 5,531 | 5,531 | 100.00 | 14 | 565 |
| BOSTON | 101,555 | 101,555 | 100.00 | 3,091 | 12,237 |
| CHELSEA | 5,744 | 5,744 | 100.00 | 164 | 457 |
| EVERETT | 7,333 | 7,333 | 100.00 | 58 | 607 |
| LEXINGTON | 3,021 | 3,021 | 100.00 | 13 | 583 |
| MALDEN | 9,851 | 9,848 | 99.97 | 75 | 788 |
| MEDFORD | 11,000 | 11,000 | 100.00 | 41 | 1,156 |
| MELROSE | 6,381 | 6,381 | 100.00 | 27 | 497 |
| MILTON | 5,148 | 5,148 | 100.00 | 10 | 751 |
| NAHANT | 947 | 947 | 100.00 | 2 | 148 |
| QUINCY | 16,997 | 16,997 | 100.00 | 68 | 1,927 |
| REVERE | 6,599 | 6,596 | 99.95 | 14 | 569 |
| SOMERVILLE | 13,887 | 13,802 | 99.39 | 143 | 1,447 |
| STONEHAM | 2,676 | 2,676 | 100.00 | 6 | 227 |
| SWAMPSCOTT | 2,934 | 2,934 | 100.00 | 3 | 307 |
| WATERTOWN | 6,275 | 6,275 | 100.00 | 47 | 765 |
| WINTHROP | 3,976 | 3,976 | 100.00 | 6 | 397 |
| District Supplied | 218,281 | 218,164 | 99.95 | 3,805 | 24,430 |
| Brookline | 8,676 | 8,676 | 100.00 | 81 | 1,297 |
| Newton | 17,011 | 17,011 | 100.00 | 79 | 1,878 |
| Total District | 243,968 | 243,851 | 99.95 | 3,965 | 27,605 |

TABLE No. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1943*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,446 | 8,446 | 100.00 | 23 | 1,004 |
| BELMONT | 5,529 | 5,529 | 100.00 | 14 | 566 |
| BOSTON | 101,638 | 101,638 | 100.00 | 3,132 | 12,241 |
| CHELSEA | 5,745 | 5,745 | 100.00 | 164 | 460 |
| EVERETT | 7,335 | 7,335 | 100.00 | 59 | 607 |
| LEXINGTON | 3,033 | 3,033 | 100.00 | 13 | 584 |
| MALDEN | 9,944 | 9,942 | 99.98 | 75 | 794 |
| MEDFORD | 11,008 | 11,008 | 100.00 | 41 | 1,157 |
| MELROSE | 6,269 | 6,269 | 100.00 | 27 | 501 |
| MILTON | 5,143 | 5,143 | 100.00 | 10 | 752 |
| NAHANT | 967 | 967 | 100.00 | 1 | 165 |
| QUINCY | 17,071 | 17,071 | 100.00 | 70 | 1,951 |
| REVERE | 6,599 | 6,596 | 99.95 | 14 | 569 |
| SOMERVILLE | 13,864 | 13,779 | 99.39 | 143 | 1,449 |
| STONEHAM | 2,679 | 2,679 | 100.00 | 6 | 227 |
| SWAMPSCOTT | 2,940 | 2,940 | 100.00 | 3 | 307 |
| WATERTOWN | 6,332 | 6,332 | 100.00 | 47 | 774 |
| WINTHROP | 3,978 | 3,978 | 100.00 | 6 | 397 |
| District Supplied | 218,520 | 218,430 | 99.96 | 3,848 | 24,505 |
| Brookline | 8,250 | 8,250 | 100.00 | 81 | 1,306 |
| Newton | 17,029 | 17,029 | 100.00 | 79 | 1,878 |
| Total District | 243,799 | 243,709 | 99.96 | 4,008 | 27,689 |

TABLE No. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1944*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,445 | 8,445 | 100.00 | 23 | 1,006 |
| BELMONT | 5,669 | 5,669 | 100.00 | 14 | 572 |
| BOSTON | 101,661 | 101,661 | 100.00 | 3,132 | 12,242 |
| CHELSEA | 5,750 | 5,750 | 100.00 | 167 | 466 |
| EVERETT | 7,343 | 7,343 | 100.00 | 61 | 607 |
| LEXINGTON | 3,033 | 3,033 | 100.00 | 13 | 584 |
| MALDEN | 9,826 | 9,824 | 99.98 | 76 | 795 |
| MEDFORD | 11,037 | 11,037 | 100.00 | 43 | 1,159 |
| MELROSE | 6,269 | 6,269 | 100.00 | 23 | 500 |
| MILTON | 5,141 | 5,141 | 100.00 | 10 | 753 |
| NAHANT | 920 | 920 | 100.00 | – | 158 |
| QUINCY | 17,065 | 17,065 | 100.00 | 73 | 1,953 |
| REVERE | 6,599 | 6,596 | 99.95 | 14 | 569 |
| SOMERVILLE | 13,892 | 13,806 | 99.38 | 144 | 1,450 |
| STONEHAM | 2,682 | 2,682 | 100.00 | 6 | 227 |
| SWAMPSCOTT | 2,943 | 2,943 | 100.00 | 7 | 310 |
| WATERTOWN | 6,364 | 6,364 | 100.00 | 49 | 794 |
| WINTHROP | 3,978 | 3,978 | 100.00 | 6 | 397 |
| District Supplied | 218,617 | 218,526 | 99.96 | 3,861 | 24,542 |
| Brookline | 8,350 | 8,350 | 100.00 | 81 | 1,310 |
| Newton | 17,031 | 17,031 | 100.00 | 81 | 1,878 |
| Total District | 243,998 | 243,907 | 99.96 | 4,023 | 27,730 |

TABLE NO. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1945*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,456 | 8,456 | 100.00 | 23 | 1,009 |
| BELMONT | 5,685 | 5,685 | 100.00 | 14 | 573 |
| BOSTON | 101,642 | 101,642 | 100.00 | 3,132 | 12,236 |
| CHELSEA | 5,752 | 5,752 | 100.00 | 172 | 466 |
| EVERETT | 7,355 | 7,355 | 100.00 | 62 | 606 |
| LEXINGTON | 3,026 | 3,026 | 100.00 | 15 | 585 |
| MALDEN | 9,866 | 9,864 | 99.98 | 76 | 795 |
| MEDFORD | 11,055 | 11,055 | 100.00 | 44 | 1,163 |
| MELROSE | 6,271 | 6,271 | 100.00 | 23 | 500 |
| MILTON | 5,213 | 5,213 | 100.00 | 10 | 753 |
| NAHANT | 970 | 970 | 100.00 | – | 159 |
| QUINCY | 17,082 | 17,082 | 100.00 | 75 | 1,952 |
| REVERE | 6,599 | 6,596 | 99.95 | 16 | 569 |
| SOMERVILLE | 13,924 | 13,838 | 99.38 | 144 | 1,450 |
| STONEHAM | 2,686 | 2,686 | 100.00 | 6 | 228 |
| SWAMPSCOTT | 2,942 | 2,942 | 100.00 | 7 | 311 |
| WATERTOWN | 6,463 | 6,463 | 100.00 | 51 | 809 |
| WINTHROP | 3,978 | 3,978 | 100.00 | 6 | 397 |
| District Supplied | 218,965 | 218,874 | 99.96 | 3,876 | 24,561 |
| Brookline | 8,366 | 8,366 | 100.00 | 81 | 1,320 |
| Newton | 17,018 | 17,018 | 100.00 | 133 | 1,882 |
| Total District | 244,349 | 244,258 | 99.96 | 4,090 | 27,763 |

TABLE NO. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District, December 31, 1946*

| CITY OR TOWN | *Services* | *Meters* | *Per Cent of Services Metered* | *Services Used for Fire Purposes Only* | *Fire Hydrants* |
|---|---|---|---|---|---|
| ARLINGTON | 8,555 | 8,555 | 100.00 | 23 | 1,027 |
| BELMONT | 5,695 | 5,695 | 100.00 | 14 | 575 |
| BOSTON | 101,844 | 101,844 | 100.00 | 3,173 | 12,249 |
| CHELSEA | 5,772 | 5,772 | 100.00 | 175 | 469 |
| EVERETT | 7,369 | 7,369 | 100.00 | 62 | 605 |
| LEXINGTON | 3,166 | 3,166 | 100.00 | 14 | 598 |
| MALDEN | 9,911 | 9,911 | 100.00 | 78 | 802 |
| MEDFORD | 11,132 | 11,132 | 100.00 | 46 | 1,173 |
| MELROSE | 6,400 | 6,400 | 100.00 | 23 | 501 |
| MILTON | 5,273 | 5,273 | 100.00 | 10 | 758 |
| NAHANT | 985 | 985 | 100.00 | 1 | 168 |
| QUINCY | 17,200 | 17,200 | 100.00 | 82 | 1,956 |
| REVERE | 6,669 | 6,669 | 100.00 | 16 | 570 |
| SOMERVILLE | 13,949 | 13,949 | 100.00 | 123 | 1,451 |
| STONEHAM | 2,786 | 2,786 | 100.00 | 6 | 231 |
| SWAMPSCOTT | 2,954 | 2,954 | 100.00 | 5 | 314 |
| WATERTOWN | 6,506 | 6,506 | 100.00 | 54 | 810 |
| WINCHESTER (West Side) | 224 | 224 | 100.00 | –* | –* |
| WINTHROP | 3,863 | 3,863 | 100.00 | 6 | 397 |
| District Supplied | 220,253 | 220,253 | 100.00 | 3,911 | 24,654 |
| Brookline | 8,540 | 8,540 | 100.00 | 83 | 1,325 |
| Newton | 17,166 | 17,166 | 100.00 | 137 | 1,901 |
| Total District | 245,959 | 245,959 | 100.00 | 4,131 | 27,880 |

* No figures available.

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1941*

| 1941 MONTH | LOW SERVICE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Watertown, Pleasant Street at Waltham Line* | | *Belmont, Water Works Shop, Waverley Street* | | *Boston, Bowdoin Square Engine House* | | *Allston, Engine House, Harvard Street* | | *Medford, near Mystic Reservoir* | | *Somerville, Public Library, Highland Avenue* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 194 | 186 | 190 | 186 | 150 | 141 | 182 | 168 | 171 | 164 | 171 | 150 | 167 | 146 | 164 | 143 |
| FEBRUARY | 193 | 188 | 190 | 185 | 150 | 141 | 177 | 170 | 171 | 165 | 169 | 155 | 167 | 149 | 166 | 144 |
| MARCH | 194 | 184 | 190 | 183 | 150 | 141 | 177 | 170 | 172 | 165 | 171 | 155 | 168 | 151 | 165 | 144 |
| APRIL | 195 | 185 | 192 | 181 | 150 | 138 | 179 | 170 | 179 | 165 | 176 | 155 | 175 | 149 | 173 | 145 |
| MAY | 198 | 186 | 192 | 185 | 152 | 143 | 187 [1] | 170 | 182 [1] | 165 | 180 [1] | 153 | 179 [1] | 151 | 179 [1] | 143 |
| JUNE | 198 | 188 | 192 | 185 | 157 | 138 | 184 | 169 | 180 | 164 | 180 | 153 | 179 | 146 | 175 | 144 |
| JULY | 196 | 186 | 192 | 184 | 149 | 137 | 179 | 167 | 180 | 162 | 180 | 150 | 178 | 141 | 178 | 138 |
| AUGUST | 198 | 185 | 192 | 181 | 150 | 138 | 181 | 167 | 179 | 162 | 176 | 150 | 175 | 141 | 173 | 138 |
| SEPTEMBER | 195 | 185 | 190 | 178 | 150 | 138 | 177 | 167 | 180 | 161 | 180 | 150 | 172 | 143 | 168 | 142 |
| OCTOBER | 193 | 186 | 188 | 183 | 150 | 141 | 182 | 168 | 180 | 165 | 173 | 155 | 173 | 146 | 171 | 144 |
| NOVEMBER | 195 | 188 | 192 | 183 | 150 | 143 | 189 [2] | 168 | 192 [2] | 165 | 185 [2] | 156 | 183 [2] | 149 | 182 [2] | 144 |
| DECEMBER | 195 | 184 | 192 | 183 | 154 | 136 | 186 | 164 | 189 | 161 | 180 | 150 | 179 | 144 | 178 | 141 |
| *Averages* | 195 | 186 | 191 | 183 | 151 | 140 | 182 | 168 | 180 | 164 | 177 | 153 | 175 | 146 | 173 | 143 |

[1] Change in pressure due to testing control valves at Spot Pond Station.
[2] Change in pressure due to operation of gates on Metropolitan Low Service.

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1942*

| 1942 MONTH | LOW SERVICE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Watertown, Pleasant Street at Waltham Line* | | *Belmont, Water Works Shop, Waverley Street* | | *Boston, Bowdoin Square Engine House* | | *Allston, Engine House, Harvard Street* | | *Medford, near Mystic Reservoir* | | *Somerville, Public Library, Highland Avenue* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 194 | 188 | 190 | 183 | 149 | 138 | 190 | 166 | 182 | 161 | 191 | 150 | 178 | 144 | 178 | 131 |
| FEBRUARY | 195 | 188 | 192 | 183 | 149 | 141 | 191 | 172 | 187 | 162 | 192 | 162 | 179 | 142 | 180 | 136 |
| MARCH | 194 | 188 | 192 | 183 | 150 | 143 | 191 | 174 | 188 | 161 | 194 | 162 | 183 | 146 | 179 | 145 |
| APRIL | 196 | 188 | 194 | 186 | 150 | 143 | 189 | 175 | 179 | 161 | 188 | 164 | 174 | 149 | 171 | 144 |
| MAY | 195 | 185 | 194 | 188 | 150 | 143 | 190 | 175 | 182 | 162 | 190 | 164 | 175 | 149 | 175 | 136 |
| JUNE | 195 | 184 | 190 | 181 | 150 | 137 | 187 | 172 | 182 | 165 | 187 | 162 | 174 | 144 | 171 | 143 |
| JULY | 196 | 188 | 190 | 183 | 150 | 134 | 189 | 170 | 183 | 164 | 188 | 160 | 174 | 142 | 168 | 141 |
| AUGUST | 194 | 188 | 190 | 184 | 150 | 134 | 186 | 172 | 180 | 165 | 183 | 160 | 170 | 140 | 167 | 141 |
| SEPTEMBER | 194 | 188 | 190 | 183 | 152 | 134 | 186 | 172 | 181 | 165 | 183 | 160 | 167 | 142 | 166 | 144 |
| OCTOBER | 194 | 185 | 188 | 178 | 154 | 138 | 189 | 172 | 184 | 166 | 188 | 164 | 174 | 146 | 168 | 145 |
| NOVEMBER | 193 | 188 | 188 | 184 | 154 | 136 | 187 | 172 | 182 | 166 | 185 | 162 | 172 | 142 | 168 | 143 |
| DECEMBER | 198 | 188 | 190 | 184 | 152 | 126 | 186 | 170 | 180 | 164 | 183 | 160 | 167 | 135 | 165 | 134 |
| *Averages* | 195 | 187 | 191 | 183 | 151 | 137 | 188 | 172 | 183 | 164 | 188 | 161 | 174 | 143 | 171 | 140 |

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1943*

| 1943 MONTH | LOW SERVICE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Allston, Engine House, Harvard Street* | | *Medford, near Mystic Reservoir* | | *Somerville, Public Library, Highland Avenue* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 150 | 131 | 182 | 170 | 177 | 164 | 180 | 162 | 167 | 142 | 161 | 141 |
| FEBRUARY | 150 | 129 | 182 | 167 | 175 | 162 | 179 | 155 | 166 | 133 | 161 | 134 |
| MARCH | 152 | 134 | 182 | 172 | 179 | 166 | 180 | 162 | 167 | 140 | 166 | 141 |
| APRIL | 152 | 136 | 186 | 174 | 179 | 166 | 180 | 164 | 167 | 144 | 165 | 144 |
| MAY | 150 | 134 | 184 | 175 | 177 | 165 | 183 | 164 | 167 | 144 | 165 | 141 |
| JUNE | 150 | 131 | 182 | 168 | 180 | 160 | 180 | 155 | 167 | 137 | 165 | 141 |
| JULY | 150 | 124 | 184 | 166 | 183 | 157 | 180 | 146 | 167 | 126 | 167 | 121 |
| AUGUST | 149 | 127 | 186 | 166 | 184 | 157 | 183 | 150 | 170 | 131 | 166 | 131 |
| SEPTEMBER | 150 | 129 | 184 | 166 | 181 | 154 | 183 | 148 | 170 | 126 | 166 | 127 |
| OCTOBER | 150 | 127 | 184 | 166 | 181 | 154 | 183 | 148 | 172 | 126 | 166 | 124 |
| NOVEMBER | 150 | 131 | 181 | 166 | 180 | 157 | 180 | 148 | 166 | 126 | 161 | 122 |
| DECEMBER | 149 | 122 | 179 | 167 | 179 | 157 | 178 | 157 | 163 | 143 | 159 | 138 |
| *Averages* | 150 | 130 | 183 | 169 | 180 | 160 | 181 | 155 | 167 | 135 | 164 | 134 |

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1944*

| 1944 MONTH | LOW SERVICE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Allston, Engine House, Harvard Street* | | *Medford, near Mystic Reservoir* | | *Somerville, Public Library, Highland Avenue* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 148 | 131 | 178 | 166 | 177 | 159 | 178 | 160 | 163 | 144 | 157 | 143 |
| FEBRUARY | 150 | 131 | 179 | 166 | 177 | 159 | 179 | 162 | 163 | 146 | 159 | 143 |
| MARCH | 150 | 131 | 179 | 170 | 179 | 165 | 179 | 167 | 163 | 152 | 159 | 147 |
| APRIL | 150 | 134 | 186 | 170 | 180 | 166 | 179 | 168 | 163 | 153 | 161 | 150 |
| MAY | 152 | 137 | 179 | 170 | 180 | 166 | 179 | 167 | 163 | 153 | 159 | 150 |
| JUNE | 150 | 131 | 179 | 170 | 180 | 161 | 179 | 162 | 160 | 146 | 161 | 145 |
| JULY | 152 | 127 | 179 | 167 | 180 | 160 | 180 | 157 | 164 | 144 | 161 | 144 |
| AUGUST | 150 | 115 | 182 | 166 | 182 | 157 | 179 | 145 | 161 | 133 | 159 | 131 |
| SEPTEMBER | 150 | 131 | 179 | 168 | 180 | 162 | 180 | 160 | 165 | 143 | 161 | 143 |
| OCTOBER | 152 | 134 | 179 | 168 | 177 | 162 | 179 | 160 | 164 | 146 | 159 | 144 |
| NOVEMBER | 152 | 134 | 182 | 166 | 179 | 157 | 180 | 153 | 174 | 131 | 164 | 132 |
| DECEMBER | 150 | 127* | 184 | 163 | 176 | 161 | 177 | 141* | 164 | 128* | 161 | 129* |
| *Averages* | 151 | 130 | 180 | 168 | 179 | 161 | 179 | 159 | 164 | 143 | 160 | 142 |

* Due to Metropolitan Water Works operations at Porter Square.

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1945*

| 1945 MONTH | LOW SERVICE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Allston, Fire Station, Harvard Street* | | *Somerville, Public Library, Highland Avenue* | | *Everett, Appleton Street At Main Street* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | | *Boston, Fire Station, Bowdoin Square* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 182 | 166 | 177 | 148 | 168 | 135 | 163 | 137 | 159 | 132 | 146 | 126 |
| FEBRUARY | 182 | 167 | 183 | 156 | 168 | 146 | 163 | 143 | 159 | 138 | 150 | 127 |
| MARCH | 179 | 168 | 179 | 160 | 169 | 150 | 165 | 149 | 161 | 144 | 152 | 136 |
| APRIL | 182 | 170 | 180 | 164 | 169 | 153 | 165 | 151 | 161 | 147 | 152 | 137 |
| MAY | 190 | 168 | 185 | 164 | 171 | 153 | 166 | 151 | 161 | 145 | 150 | 138 |
| JUNE | 184 | 163 | 180 | 156 | 170 | 148 | 164 | 144 | 161 | 145 | 150 | 131 |
| JULY | 184 | 161 | 183 | 155 | 170 | 147 | 164 | 143 | 161 | 141 | 152 | 134 |
| AUGUST | 184 | 170 | 183 | 162 | 170 | 153 | 165 | 149 | 161 | 144 | 150 | 135 |
| SEPTEMBER | 184 | 170 | 185 | 167 | 170 | 156 | 165 | 152 | 161 | 150 | 152 | 137 |
| OCTOBER | 184 | 172 | 185 | 168 | 170 | 157 | 166 | 153 | 159 | 150 | 154 | 138 |
| NOVEMBER | 193 | 172 | 191 | 167 | 171 | 157 | 170 | 153 | 161 | 150 | 152 | 134 |
| DECEMBER | 200 [1] | 156 | 200 [1] | 153 | 183 [1] | 130 | 183 [1] | 133 | 161 | 132 | 154 | 131 |
| *Averages* | 186 | 167 | 184 | 160 | 171 | 149 | 167 | 147 | 161 | 143 | 151 | 134 |

[1] Increase in pressure due to use of Spot Pond water in order to lower the elevation of Spot Pond to a safe operating level.

TABLE No. 23. — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1946*

| 1946 MONTH | LOW SERVICE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Allston, Fire Station, Harvard Street* | | *Somerville, Public Library, Highland Avenue* | | *Everett, Appleton Street at Main Street* | | *Malden, Water Works Shop, Green Street* | | *Chelsea, Fire Station, Park Street* | | *Boston, Fire Station, Bowdoin Square* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 198 | 152 | 190 | 148 | 170 | 130 | 167 | 128 | 164 | 129 | 150 | 122 |
| FEBRUARY | 198 | 172 | 192 | 162 | 176 | 134 | 170 | 140 | 166 | 138 | 152 | 129 |
| MARCH | 205 | 170 | 199 | 162 | 179 | 146 | 176 | 144 | 173 | 143 | 157 | 127 |
| APRIL | 205 | 175 | 203 | 167 | 180 | 150 | 179 | 146 | 173 | 144 | 152 | 126 |
| MAY | 207 | 177 | 208 | 171 | 180 | 150 | 178 | 146 | 173 | 144 | 154 | 127 |
| JUNE | 202 | 170 | 208 | 179 | 176 | 153 | 172 | 149 | 171 | 144 | 154 | 131 |
| JULY | 207 | 172 | 210 | 169 | 180 | 153 | 174 | 137 | 171 | 144 | 152 | 131 |
| AUGUST | 209 | 172 | 213 | 171 | 184 | 150 | 176 | 146 | 173 | 145 | 154 | 137 |
| SEPTEMBER | 215 | 177 | 215 | 180 | 184 | 155 | 176 | 151 | 173 | 150 | 154 | 136 |
| OCTOBER | 214 | 186 | 202 | 173 | 180 | 146 | 170 | 142 | 167 | 141 | 154 | 131 |
| NOVEMBER | 212 | 184 | 202 | 173 | 178 | 153 | 168 | 149 | 165 | 145 | 154 | 138 |
| DECEMBER | 205 | 172 | 201 | 173 | 180 | 148 | 170 | 149 | 166 | 145 | 152 | 127 |
| *Averages* | 206 | 173 | 204 | 169 | 179 | 147 | 173 | 144 | 170 | 143 | 153 | 130 |

TABLE No. 23. — Concluded — *Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1941 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Engine House, Union Square* | | *Winthrop, Town Hall, Herman Street* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 240 | 219 | 246 | 227 | 239 | 208 | 239 | 205 | 259 | 233 | 263 | 251 | 261 | 247 | 199 | 180 | 321 | 310 | 429 | 422 |
| FEBRUARY | 241 | 221 | 244 | 226 | 239 | 213 | 236 | 209 | 260 | 233 | 265 | 253 | 261 | 247 | 198 | 184 | 320 | 310 | 430 | 422 |
| MARCH | 242 | 224 | 248 | 230 | 242 | 215 | 239 | 213 | 263 | 235 | 262 | 250 | 261 | 247 | 199 | 187 | 319 | 308 | 429 | 423 |
| APRIL | 242 | 224 | 248 | 232 | 242 | 216 | 239 | 214 | 263 | 221 | 262 | 248 | 263 | 245 | 198 | 184 | 320 | 308 | 430 | 419 |
| MAY | 242 | 206 | 248 | 224 | 242 | 209 | 239 | 202 | 263 | 230 | 262 | 238 | 263 | 236 | 198 | 182 | 320 | 308 | 429 | 413 |
| JUNE | 242 | 201 | 248 | 214 | 242 | 201 | 239 | 191 | 263 | 221 | 260 | 225 | 262 | 215 | 198 | 180 | 322 | 308 | 429 | 413 |
| JULY | 240 | 198 | 249 | 215 | 239 | 195 | 236 | 186 | 263 | 224 | 259 | 223 | 263 | 213 | 198 | 166 | 322 | 308 | 430 | 402 |
| AUGUST | 240 | 210 | 249 | 232 | 242 | 209 | 242 | 204 | 263 | 233 | 260 | 230 | 262 | 224 | 198 | 175 | 320 | 308 | 429 | 418 |
| SEPTEMBER | 242 | 212 | 249 | 232 | 242 | 213 | 242 | 209 | 263 | 233 | 261 | 236 | 259 | 222 | 198 | 173 | 320 | 308 | 430 | 418 |
| OCTOBER | 242 | 215 | 249 | 234 | 245 | 220 | 244 | 209 | 263 | 230 | 262 | 244 | 261 | 240 | 198 | 184 | 320 | 308 | 428 | 422 |
| NOVEMBER | 242 | 219 | 249 | 237 | 245 | 219 | 244 | 216 | 263 | 191[3] | 262 | 244 | 261 | 238 | 199 | 175 | 321 | 310 | 430 | 423 |
| DECEMBER | 242 | 218 | 249 | 236 | 242 | 219 | 242 | 212 | 263 | 184[3] | 265 | 248 | 261 | 243 | 189 | 177 | 322 | 310 | 430 | 423 |
| *Averages* | 241 | 214 | 248 | 228 | 242 | 211 | 240 | 206 | 262 | 222 | 262 | 241 | 262 | 235 | 198 | 179 | 321 | 309 | 429 | 418 |

[3] Change in pressure due to leak on Section 50.

TABLE No. 23. — *Concluded — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1942 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Engine House, Union Square* | | *Winthrop, Town Hall, Herman Street* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 242 | 218 | 248 | 236 | 237 | 219 | 244 | 216 | 267 | 230 | 262 | 248 | 265 | 245 | 189 | 170 | 320 | 308 | 429 | 423 |
| FEBRUARY | 242 | 219 | 249 | 236 | 237 | 220 | 242 | 216 | 267 | 242 | 262 | 248 | 266 | 250 | 188 | 173 | 319 | 308 | 432 | 422 |
| MARCH | 241 | 221 | 251*a* | 237 | 238*a* | 221 | 242*a* | 219 | 267 | 237 | 262 | 248 | 266 | 251 | 189 | 182 | 319 | 308 | 427 | 421 |
| APRIL | 251*b* | 221 | 251 | 237 | 249 | 220 | 246 | 216 | 267 | 236 | 263 | 248 | 268 | 252 | 189 | 182 | 319 | 308 | 427 | 421 |
| MAY | 251 | 231 | 249 | 232 | 249 | 222 | 244 | 212 | 267 | 242 | 262 | 241 | 268 | 238 | 189 | 173 | 320 | 306 | 435 | 419 |
| JUNE | 251 | 224 | 249 | 230 | 249 | 209 | 242 | 202 | 265 | 205 | 262 | 244 | 268 | 243 | 194 | 166 | 322 | 303 | 436 | 427 |
| JULY | 250 | 221 | 248 | 232 | 242 | 213 | 242 | 202 | 267 | 236 | 260 | 237 | 266 | 229 | 196 | 168 | 321 | 307 | 430 | 423 |
| AUGUST | 249 | 221 | 248 | 234 | 242 | 220 | 244 | 204 | 265 | 237 | 260 | 239 | 266 | 238 | 199 | 182 | 319 | 308 | 430 | 423 |
| SEPTEMBER | 249 | 212 | 248 | 232 | 243 | 215 | 242 | 207 | 265 | 237 | 258 | 239 | 266 | 236 | 198 | 163 | 320 | 306 | 430 | 414 |
| OCTOBER | 250 | 230 | 248 | 236 | 243 | 223 | 242 | 209 | 267 | 242 | 260 | 248 | 266 | 245 | 188 | 177 | 320 | 308 | 430 | 423 |
| NOVEMBER | 250 | 228 | 247 | 230 | 243 | 217 | 242 | 212 | 265 | 242 | 262 | 248 | 266 | 250 | 189 | 182 | 320 | 308 | 432 | 425 |
| DECEMBER | 250 | 230 | 246 | 230 | 239 | 220 | 239 | 209 | 265 | 242 | 262 | 248 | 266 | 252 | 191 | 184 | 322 | 308 | 435 | 425 |
| *Averages* | 248 | 223 | 249 | 234 | 243 | 218 | 243 | 210 | 266 | 236 | 261 | 245 | 266 | 244 | 192 | 175 | 320 | 307 | 431 | 422 |

*a* Increase believed due to repair of bad leak on Section 21, Southern High-service Pipe Lines, on March 26, 1942.
*b* Increase believed due to renewal of gage.

TABLE No. 23. — *Concluded — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1943 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Engine House, Union Square* | | *Winthrop, Town Hall, Herman Street* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 250 | 230 | 247 | 232 | 239 | 220 | 236 | 212 | 263 | 240 | 262 | 248 | 266 | 253 | 191 | 182 | 320 | 310 | 432 | 423 |
| FEBRUARY | 250 | 231 | 246 | 232 | 239 | 220 | 236 | 214 | 260 | 240 | 262 | 248 | 266 | 252 | 194 | 187 | 320 | 310 | 432 | 418 |
| MARCH | 250 | 231 | 248 | 234 | 243 | 224 | 239 | 216 | 265 | 233 | 262 | 248 | 266 | 252 | 191 | 187 | 322 | 309 | 427 | 413 |
| APRIL | 251 | 233 | 248 | 234 | 244 | 225 | 239 | 216 | 265 | 244 | 262 | 248 | 266 | 247 | 194 | 187 | 320 | 308 | 427 | 414 |
| MAY | 251 | 231 | 249 | 234 | 245 | 223 | 242 | 212 | 265 | 242 | 262 | 248 | 266 | 250 | 191 | 184 | 320 | 310 | 429 | 417 |
| JUNE | 247 | 219 | 248 | 221 | 243 | 200 | 239 | 198 | 270 | 221 | 258 | 222 | 266 | 207 | 191 | 166 | 320 | 299 | 429 | 404 |
| JULY | 247 | 219 | 248 | 226 | 243 | 204 | 239 | 193 | 267 | 224 | 258 | 218 | 263 | 207 | 202 | 165 | 324 | 308 | 432 | 399 |
| AUGUST | 247 | 217 | 246 | 225 | 240 | 212 | 238 | 204 | 263* | 219 | 258 | 235 | 265 | 231 | 191 | 177 | 336 | 306 | 429 | 418 |
| SEPTEMBER | 247 | 224 | 248 | 232 | 242 | 220 | 239 | 212 | 270 | 225 | 260 | 239 | 266 | 243 | 198 | 180 | 324 | 308 | 432 | 418 |
| OCTOBER | 250 | 228 | 248 | 232 | 244 | 219 | 242 | 207 | 270 | 244 | 262 | 235 | 266 | 247 | 184 | 173 | 324 | 308 | 432 | 419 |
| NOVEMBER | 250 | 212 | 246 | 225 | 242 | 215 | 239 | 209 | 267 | 214 | 262 | 248 | 268 | 247 | 187 | 175 | 324 | 308 | 429 | 415 |
| DECEMBER | 247 | 224 | 246 | 221 | 240 | 210 | 237 | 201 | 263 | 230 | 262 | 244 | 268 | 250 | 187 | 177 | 324 | 310 | 428 | 420 |
| *Averages* | 249 | 225 | 247 | 229 | 242 | 216 | 239 | 208 | 266 | 231 | 261 | 240 | 266 | 241 | 192 | 178 | 323 | 308 | 430 | 415 |

* Drop in pressure due to Metropolitan Water Works operating valves to utilize Norumbega Reservoir.

TABLE No. 23. — *Concluded — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1944 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Bowdoin Square Engine House* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Engine House, Union Square* | | *Winthrop, Revere Street, Revere Line* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 249 | 227 | 244 | 223 | 237 | 210 | 233 | 200 | 256 | 210 | 262 | 250 | 270 | 252 | 259 | 239 | 322 | 308 | 429 | 420 |
| FEBRUARY | 249 | 226 | 244 | 221 | 235 | 205 | 233 | 198 | 258 | 230 | 263 | 248 | 268 | 253 | 260 | 244 | 322 | 308 | 429 | 418 |
| MARCH | 249 | 228 | 241 | 225 | 230 | 200 | 224 | 198 | 260 | 237 | 263 | 248 | 268 | 252 | 260 | 241 | 324 | 308 | 429 | 418 |
| APRIL | 251 | 228 | 248 | 227 | 246 | 198 | 245 | 186 | 263 | 221 | 262 | 253 | 268 | 254 | 260 | 244 | 324 | 308 | 429 | 420 |
| MAY | 249 | 228 | 249 | 225 | 246 | 189 | 244 | 182 | 263 | 212 | 262 | 239 | 268 | 215 | 260 | 221 | 336 | 301 | 429 | 413 |
| JUNE | 247 | 221 | 249 | 232 | 246 | 216 | 244 | 204 | 260 | 224 | 261 | 230 | 268 | 220 | 260 | 209 | 324 | 308 | 432 | 411 |
| JULY | 248 | 218 | 251 | 234 | 247 | 219 | 244 | 212 | 256 | 203 | 260 | 226 | 265 | 226 | 258 | 200 | 331 | 303 | 432 | 415 |
| AUGUST | 247 | 216 | 249 | 227 | 246 | 212 | 244 | 193 | 260 | 176 | 258 | 209 | 261 | 199 | 253 | 186 | 331 | 303 | 434 | 408 |
| SEPTEMBER | 247 | 203 | 248 | 237 | 246 | 224 | 244 | 214 | 263 | 228 | 258 | 239 | 270 | 238 | 255 | 230 | 324 | 308 | 432 | 420 |
| OCTOBER | 249 | 228 | 249 | 237 | 246 | 231 | 244 | 219 | 260 | 207 | 262 | 246 | 266 | 250 | 260 | 239 | 324 | 310 | 432 | 413 |
| NOVEMBER | 250 | 226 | 249 | 237 | 246 | 232 | 244 | 219 | 260 | 210 | 262 | 248 | 268 | 253 | 261 | 241 | 324 | 309 | 429 | 420 |
| DECEMBER | 249 | 228 | 248 | 237 | 246 | 232 | 244 | 219 | 263 | 230 | 262 | 246 | 265 | 250 | 259 | 238 | 324 | 308 | 432 | 420 |
| *Averages* | 249 | 223 | 247 | 230 | 243 | 214 | 241 | 204 | 260 | 216 | 261 | 240 | 267 | 239 | 259 | 228 | 326 | 307 | 431 | 416 |

TABLE No. 23. — *Concluded — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1945 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Service* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Fire Station, Bowdoin Square* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Fire Station, Union Square* | | *Winthrop, Revere Street, Revere Line* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 247 | 226 | 248 | 236 | 249 | 229 | 246 | 214 | 254 | 224 | 262 | 246 | 265 | 250 | 259 | 239 | 324 | 310 | 429 | 418 |
| FEBRUARY | 247 | 226 | 248 | 237 | 249 | 230 | 242 | 216 | 244 | 221 | 262 | 246 | 265 | 250 | 259 | 239 | 322 | 308 | [2] | — |
| MARCH | 249 | 228 | 251 | 236 | 249 | 230 | 242 | 216 | 254 | 222 | 262 | 246 | 265 | 250 | 259 | 238 | 323 | 308 | 436 | 422 |
| APRIL | 249 | 230 | 251 | 227 | 250 | 228 | 244 | 215 | 254 | 228 | 262 | 244 | 268 | 250 | 260 | 239 | 327 | 309 | 435 | 426 |
| MAY | 245 | 226 | 248 | 237 | 247 | 229 | 242 | 214 | 259 | 235 | 262 | 246 | 266 | 247 | 260 | 241 | 324 | 310 | 436 | 422 |
| JUNE | 247 | 215 | 248 | 234 | 249 | 225 | 242 | 209 | 263 | 228 | 262 | 236 | 268 | 240 | 261 | 235 | 322 | 308 | 436 | 425 |
| JULY | 242 | 215 | 248 | 232 | 247 | 227 | 242 | 209 | 260 | 228 | 260 | 231 | 265 | 238 | 258 | 228 | 324 | 310 | 438 | 427 |
| AUGUST | 242 | 208 | 248 | 232 | 247 | 223 | 239 | 200 | 254 | 225 | 258 | 230 | 263 | 220 | 255 | 221 | 323 | 301 | 438 | 415 |
| SEPTEMBER | 245 | 216 | 247 | 230 | 245 | 224 | 239 | 186 | 256 | 225 | 260 | 235 | 266 | 236 | 258 | 221 | 324 | 308 | 436 | 423 |
| OCTOBER | 247 | 224 | 246 | 234 | 245 | 227 | 238 | 205 | 256 | 235 | 261 | 244 | 266 | 243 | 259 | 235 | 336 | 308 | 433 | 427 |
| NOVEMBER | 247 | 227 | 247 | 230 | 245 | 230 | 242 | 214 | 259 | 230 | 262 | 244 | 265 | 243 | 258 | 235 | 334 | 308 | 436 | 425 |
| DECEMBER | 247 | 224 | 244 | 230 | 245 | 228 | 238 | 209 | 265 | 211 | 262 | 244 | 266 | 243 | 258 | 230 | 334 | 308 | 434 | 425 |
| *Averages* | 246 | 222 | 248 | 233 | 247 | 228 | 241 | 209 | 257 | 226 | 261 | 241 | 266 | 243 | 259 | 233 | 325 | 308 | 435 | 423 |

[2] Gage out of order.

TABLE No. 23. — *Concluded — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc.*

| 1946 MONTH | SOUTHERN HIGH SERVICE | | | | | | | | NORTHERN HIGH SERVICE | | | | | | | | *Intermediate High Service* | | *Northern Extra High Sercice* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Boston, Fire Station, Bowdoin Square* | | *Milton, Adams Street at Canton Avenue* | | *Quincy, Forbes Hill Tower* | | *Quincy, Water Works Shop* | | *Somerville, Broadway at Cedar Street* | | *Revere, Water Works Shop, Broadway* | | *Lynn, Fire Station, Union Square* | | *Winthrop, Revere Street, Revere Line* | | *Belmont, Common Street at Washington Street* | | *Lexington, Massachusetts Avenue at Arlington Line* | |
| | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* | *Maximum* | *Minimum* |
| JANUARY | 249 | 221 | 244 | 232 | 243 | 228 | 236 | 209 | 260 | 199 | 262 | 240 | 266 | 243 | 258 | 232 | 336 | 308 | 436 | 422 |
| FEBRUARY | 247 | 224 | — [1] | — | 242 | 225 | 233 | 205 | 259 | 228 | 262 | 245 | 268 | 245 | 260 | 230 | 322 | 308 | 434 | 427 |
| MARCH | 247 | 227 | 247 | 236 | 245 | 225 | 239 | 207 | 263 | 230 | 262 | 246 | 268 | 250 | 260 | 237 | 324 | 308 | 436 | 427 |
| APRIL | 249 | 219 | 248 | 237 | 245 | 229 | 238 | 212 | 265 | 234 | 262 | 246 | 266 | 245 | 261 | 238 | 325 | 308 | 433 | 423 |
| MAY | 249 | 221 | 247 | 232 | 244 | 228 | 239 | 213 | 260 | 230 | 262 | 244 | 268 | 245 | 261 | 238 | 338 | 308 | 436 | 427 |
| JUNE | 247 | 208 | 247 | 232 | 246 | 219 | 242 | 200 | 263 | 226 | 261 | 211 | 266 | 240 | 260 | 202 | 324 | 303 | 434 | 422 |
| JULY | 249 | 208 | 248 | 221 | 247 | 201 | 233 | 170 | 260 | 217 | 248 | 216 | 261 | 196 | 255 | 195 | 327 | 303 | 434 | 408 |
| AUGUST | 247 | 212 | 247 | 227 | 245 | 230 | 238 | 209 | 258 | 235 | 255 | 225 | 263 | 239 | 256 | 226 | 322 | 308 | 436 | 425 |
| SEPTEMBER | 247 | 216 | 247 | 232 | 245 | 230 | 237 | 207 | 258 | 236 | 258 | 225 | 265 | 236 | 254 | 220 | 324 | 310 | 434 | 423 |
| OCTOBER | 250 | 221 | 247 | 232 | 245 | 231 | 239 | 211 | 256 | 235 | 258 | 235 | 265 | 233 | 265 | 224 | 324 | 308 | 434 | 426 |
| NOVEMBER | 250 | 224 | 247 | 232 | 245 | 228 | 244 | 215 | 257 | 236 | 262 | 244 | 263 | 247 | 267 | 241 | 324 | 308 | 435 | 425 |
| DECEMBER | 247 | 224 | 247 | 230 | 245 | 232 | 244 | 213 | 256 | 242 | 261 | 244 | 265 | 247 | 267 | 235 | 324 | 308 | 435 | 423 |
| *Averages* | 248 | 219 | 247 | 231 | 245 | 226 | 239 | 206 | 260 | 229 | 259 | 235 | 265 | 239 | 260 | 227 | 326 | 307 | 435 | 423 |

[1] Gage out of order.

## *Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1941*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* |
|---|---|---|
| Town of Rutland | 93,143,400*a* | 255,200 |
| Town of Holden | 29,502,700*b* | 80,800 |
| Town of Clinton | 193,690,800 | 1,041,300*c* |
| Town of Lancaster | 30,609,200 | 164,600*c* |
| Town of Sterling | 8,518,000*d* | 23,300 |
| Westborough State Hospital | 79,639,000 | 218,200 |
| Town of Westborough | 90,000,000 | 247,000 |
| Town of Southborough | 52,676,000 | 144,000 |
| City of Worcester | 699,000,000*e* | 1,915,000 |
| Town of Ashland | 217,784,000 | 596,700 |
| Town of Hopkinton | 37,100,000 | 102,000 |
| Town of Framingham | 5,331,000 | 15,000 |
| Town of Natick | 348,820,000 | 956,000 |
| City of Cambridge | 75,000,000*f* | 205,000 |
| City of Waltham | 20,631,800*g* | 57,000 |
| United States Army Reservation at Peddock's Island In Hull | 31,068,000*h* | 85,100 |
| Portion of Town of Saugus | 4,487,000*i* | 12,300 |
| Metropolitan Parks, Middlesex Fells Division | 6,538,000*j* | 17,900 |
| Revere Beach Division | 1,697,000*j* | 4,600 |
| Walter E. Fernald State School and Metropolitan State Hospital | 186,601,000*j* | 511,200 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 365 days except as noted.
*a* All water was diverted from the Wachusett watershed.
*b* 1,279,000 gallons diverted from the Wachusett watershed.
*c* The average daily quantity is figured on basis of 186 days actual use.
*d* 2,259,000 gallons diverted from the Wachusett watershed.
*e* The City of Worcester took water from Wachusett Reservoir on 62 days and from Quinapoxet Pond on 100 days.
*f* The City of Cambridge took water on 7 days.
*g* The City of Waltham took water on 15 days.
*h* Water supplied by the Commission through City of Quincy pipes, and by agreement revenue is divided in equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941, not yet approved by Commonwealth.
*i* The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.
*j* For fiscal year ending November 30, 1941.

*Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District—1942*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* |
|---|---|---|
| Town of Rutland | 81,199,200*a* | 222,500 |
| Town of Holden | 30,161,900*b* | 82,600 |
| Town of Chilton | 297,364,000 | 1,043,400*c* |
| Town of Lancaster | 53,436,000 | 187,500*c* |
| Town of Sterling | 8,535,000*d* | 23,400 |
| Town of West Boylston | 16,178,400*e* | 44,300 |
| Westborough State Hospital | 81,248,000 | 223,000 |
| Town of Westborough | 91,250,000 | 250,000 |
| Town of Southborough | 51,871,000 | 142,000 |
| City of Worcester | 3,417,600,000*f* | 9,364,000 |
| Town of Ashland | 242,870,800 | 665,400 |
| Town of Hopkinton | 35,720,600 | 97,000 |
| Town of Framingham | 1,349,000 | 3,700 |
| Town of Natick | 342,435,000 | 938,000 |
| United States Army Reservation at Peddock's Island in Hull | 26,263,000*g* | 72,000 |
| Portion of Town of Saugus | 5,878,000*h* | 16,100 |
| Portion of Town of Saugus | 108,000*i* | 300 |
| Metropolitan Parks, Middlesex Fells Division | 6,516,000 | 17,900 |
| Revere Beach Division | 2,569,000 | 7,000 |
| Walter E. Fernald State School and Metropolitan State Hospital | 176,276,000 | 482,900 |
| General Electric Company, Lynn | 6,917,000*j* | 19,000 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 365 days except as noted.
*a* All water was diverted from Wachusett watershed.
*b* 1,279,100 gallons diverted from Wachusett watershed.
*c* The average daily quantity is figured on basis of 285 days actual use.
*d* 2,264,400 gallons diverted from Wachusett watershed.
*e* All water was used on Wachusett watershed.
*f* The City of Worcester took water from Wachusett Reservoir on 35 days and from Quinapoxet Pond on 165 days.
*g* Water supplied by the Commission through City of Quincy pipes and by agreement revenue is divided in equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941, not yet approved by Commonwealth.
*h* The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.
*i* Water supplied by the Commission under the provisions of Chater 566 of the Acts of 1941.
*j* Water supplied by the Commission under the provisions of Chapter 719 of the Acts of 1942.

## *Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1943*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day).* |
|---|---|---|
| Town of Rutland | 81,163,000*a* | 222,400 |
| Town of Holden | 31,270,000*b* | 85,700 |
| Town of Clinton | 294,540,000 | 1,115,700*c* |
| Town of Lancaster | 46,660,000 | 176,700*c* |
| Town of Sterling | 9,014,000*d* | 24,700 |
| Town of West Boylston | 16,405,500*e* | 44,900 |
| Westborough State Hospital | 86,175,000 | 236,000 |
| Town of Westborough | 91,250,000 | 250,000 |
| Town of Southborough | 56,626,000 | 155,000 |
| City of Worcester | 1,519,900,000*f* | 4,164,000 |
| Town of Ashland | 254,177,000 | 696,000 |
| Town of Hopkinton | 36,041,000 | 101,000 |
| Town of Framingham | 6,400,000 | 15,000 |
| Town of Natick | 380,980,000 | 1,044,000 |
| City of Waltham | 49,974,000*g* | 136,000 |
| United States Army Reservation at Peddock's Island in Hull | 21,814,000*h* | 59,800 |
| Portion of Town of Saugus | 5,869,000*i* | 16,100 |
| Portion of Town of Saugus | 162,000*j* | 400 |
| Metropolitan Parks, Middlesex Fells Division | 6,539,000 | 17,900 |
| Revere Beach Division | 1,469,000 | 4,000 |
| Walter E. Fernald State School and Metropolitan State Hospital | 179,605,000 | 492,100 |
| General Electric Company, Lynn | 61,281,000*k* | 167,900 |
| United States Army Barracks, Chelsea and Lynn | 273,540*k* | 750 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 365 days except as noted.
All water was diverted from Wachusett watershed.

*a* 1,346,400 gallons diverted from Wachusett watershed.

*b* The average daily quantity is figured on basis of 264 days actual use.

*c* 2,447,500 gallons diverted from Wachusett watershed.

*d* All water was used on Wachusett watershed.

*e* The City of Worcester took water from Quinapoxet Pond on 76 days.

*f* Water supplied by the Commission under the provisions of Chapter 543 of the Acts of 1943.

*g* Water supplied by the Commission through City of Quincy pipes and by agreement revenue is divided *h*equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941, not yet in approved by Commonwealth.

*i* The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.

*j* Water supplied by the Commission under the provisions of Chapter 566 of the Acts of 1941.

*k* Water supplied by the Commission under the provisions of Chapter 719 of the Acts of 1942.

## *Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1944*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* |
|---|---|---|
| Town of Rutland | 83,865,100*a* | 229,100 |
| Town of Holden | 34,985,100*b* | 95,600 |
| Town of Clinton | 268,912,081 | 1,003,403*c* |
| Town of Lancaster | 40,287,919 | 150,328*c* |
| Town of Sterling | 10,564,000*d* | 28,900 |
| Town of West Boylston | 27,044,600*e* | 73,900 |
| Westborough State Hospital | 71,671,000 | 196,000 |
| Town of Westborough | 91,500,000 | 250,000 |
| Town of Southborough | 60,095,000 | 164,000 |
| City of Worcester | 2,413,700,000*f* | 6,595,000 |
| Town of Ashland | 211,314,000 | 577,000 |
| Town of Hopkinton | 40,231,000 | 110,000 |
| Town of Framingham | 5,554,000 | 15,000 |
| Town of Natick | 400,750,000 | 1,095,000 |
| City of Waltham | 167,086,000*g* | 456,500 |
| United States Army Reservation, Peddock's Island in Hull | 18,733,000*h* | 51,200 |
| Portion of Town of Saugus | 3,258,000*i* | 8,900 |
| Portion of Town of Saugus | 132,000*j* | 360 |
| Metropolitan Parks, Middlesex Fells Division | 6,538,000 | 17,900 |
| Revere Beach Division | 1,484,000 | 4,100 |
| Walter E. Fernald School and Metropolitan State Hospital | 195,438,000 | 534,000 |
| United States Regional Hospital, Waltham | 9,901,000*kl* | 27,100 |
| General Electric Company, Lynn | 133,549,000*k* | 364,900 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 366 days except as noted.
*a* All water was diverted from Wachusett watershed.
*b* 1,436,200 gallons diverted from Wachusett watershed.
*c* The average daily quantity is figured on basis of 268 days of actual use.
*d* 2,868,400 gallons diverted from Wachusett watershed.
*e* All water was used on Wachusett watershed.
*f* The City of Worcester took water from Quinnapoxet Pond on 118 days.
*g* Water supplied by the Commission under provisions of Chapter 543 of the Acts of 1943.
*h* Water supplied by the Commission through City of Quincy pipe lines and by agreement revenue is divided in equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941; not yet approved by Commonwealth.
*i* The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.
*j* Water supplied by the Commission under the provisions of Chapter 566 of the Acts of 1941.
*k* Water supplied by the Commission under the provisions of Chapter 719 of the Acts of 1941.
*l* Water supplied by the Commission under the provisions of Chapter 13 of the Acts of 1942.

## *Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1945*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* |
|---|---|---|
| Town of Rutland | 88,117,000*a* | 241,416 |
| Town of Holden | 34,284,356*b* | 93,930 |
| Town of Clinton | 184,631,200 | 1,161,203*c* |
| Town of Lancaster | 28,568,800 | 179,678 |
| Town of Sterling | 10,568,000*d* | 28,953 |
| Town of West Boylston | 32,410,106*e* | 88,795 |
| Westborough State Hospital | 74,911,000 | 205,000 |
| Town of Westborough | 91,250,000 | 250,000 |
| Town of Southborough | 59,786,000 | 164,000 |
| City of Worcester | 300,400,000 | 823,000 |
| Town of Ashland | 218,742,800 | 599,000 |
| Town of Hopkinton | 41,315,000 | 113,000 |
| Town of Framingham | 85,331,000 | 234,000 |
| Town of Natick | 389,730,000 | 1,067,000 |
| City of Waltham | 44,859,000*g* | 122,900 |
| United States Army Reservation, Peddock's Island in Hull | 37,680,000*h* | 103,200 |
| United States Regional Hospital, Waltham | 24,703,000*kl* | 67,700 |
| Portion of Town of Saugus | 3,389,000*i* | 9,300 |
| Portion of Town of Saugus | 526,000*j* | 1,400 |
| Metropolitan Parks, Middlesex Fells Division | 6,569,000 | 18,000 |
| Revere Beach Division | 1,537,000 | 4,200 |
| Walter E. Fernald School and Metropolitan State Hospital | 200,404,000 | 549,000 |
| General Electric Company | 171,242,000*k* | 469,200 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 365 days except as noted.
*a* All water was diverted from Wachusett watershed.
*b* 1,503,480 gallons diverted from Wachusett watershed.
*c* The average daily quantity is figured on basis of 159 days of actual use.
*d* 2,831,952 gallons diverted from Wachusett watershed
*e* All water was used on Wachusett watershed.
*f* The City of Worcester took water from Quinnapoxet Pond on 14 days.
*g* Water supplied by the Commission under provisions of Chapter 543 of the Acts of 1943.
*h* Water supplied by the Commission through City of Quincy pipe lines and by agreement revenue is divided in equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941; not yet approved by Commonwealth.
*i* The City of Melrose supplies the water and pays the Commonwealth by an addition to its regular apportionment.
*j* Water supplied by the Commission under the provisions of Chapter 566 of the Acts of 1941.
*k* Water supplied by the Commission under the provisions of Chapter 719 of the Acts of 1941.
*l* Water supplied by the Commission under the provisions of Chapter 13 of the Acts of 1942.

*Water from Metropolitan Water Works Sources Used Outside of the Metropolitan Water District — 1946*

| Places Where Water is Used | *Total Quantity (Gallons)* | *Average Quantity (Gallons per Day)* |
|---|---|---|
| Town of Rutland | 89,740,500*a* | 245,860 |
| Town of Holden | 40,079,500*b* | 109,810 |
| Town of Clinton | 196,161,425 | 1,037,890*c* |
| Town of Lancaster | 37,238,575 | 197,030 |
| Town of Sterling | 13,325,000*d* | 36,510 |
| Town of West Boylston | 32,663,015*e* | 89,490 |
| Westborough State Hospital | 77,287,600 | 211,750 |
| Town of Westborough | 91,250,000 | 250,000 |
| Town of Southborough | 64,627,000 | 177,000 |
| Town of Ashland | 249,447,000 | 683,000 |
| Town of Hopkinton | 48,328,000 | 132,000 |
| Town of Framingham | 196,175,000 | 537,000 |
| Town of Natick | 436,605,000 | 1,196,000 |
| City of Waltham | 143,801,000*f* | 394,000 |
| United States Army Reservation, Peddock's Island in Hull | 2,496,000*g* | 6,800 |
| Murphy General Hospital, Waltham | 26,897,000*h* | 73,700 |
| Portion of Town of Saugus | 504,000*i* | 1,400 |
| Metropolitan Parks, Middlesex Fells Division | 6,569,000 | 18,000 |
| Revere Beach Division | 1,925,000 | 5,300 |
| Walter E. Fernald School and Metropolitan State Hospital | 201,658,000 | 552,500 |
| General Electric Company, Lynn | 74,188,000*h* | 203,300 |

Notes:—Water was used throughout the year in all places except as noted.
The average daily use is figured on basis of 365 days except as noted.
*a* All water was diverted from Wachusett watershed.
*b* 1,884,960 gallons was diverted from Wachusett watershed.
*c* The average daily quantity is based on 189 days of actual use.
*d* 3,664,364 gallons was diverted from Wachusett watershed.
*e* All water was used on Wachusett watershed.
*f* Water supplied by the Commission under provisions of Chapter 549 of the Acts of 1946.
*g* Water supplied by the Commission through City of Quincy pipe lines and by agreement revenue is divided in equal shares between the City and Commonwealth. Rate lowered by City on July 1, 1941; not yet approved by Commonwealth.
*h* Water supplied by the Commission under the provisions of Chapter 719 of the Acts of 1941 and Chapter 13 of the Acts of 1942.
*i* Water supplied by the Commission under the provisions of Chapter 566 of the Acts of 1941.